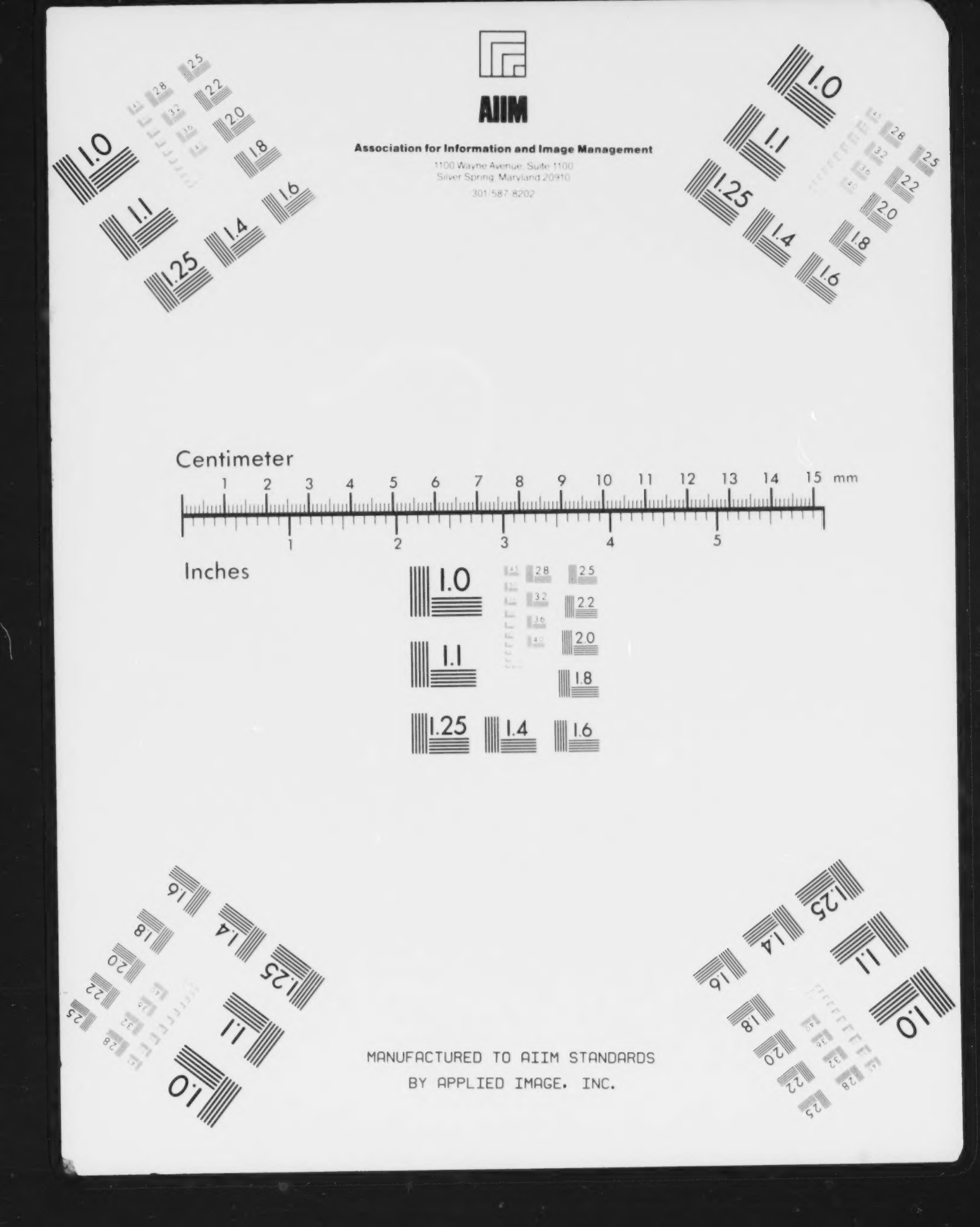
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ABSTRACT

The National Environmental Education and Training Foundation commissioned a survey on environmental attitudes and behaviors of disadvantaged youth in America to identify the critical gaps in environmental education so that resources can be targeted more effectively. Phase 1 consisted of qualitative research among disadvantaged students through nine focus groups in three cities--New York (New York), Los Angeles (California), and Chicago (Illinois). Phase 2 was a nationwide quantitative survey of 982 students in grades 4 through 12. This phase allowed comparison by gender, grade, and religion. Phase 3 consisted of an in-depth quantitative survey based on 2,139 interviews among students from disadvantaged areas. Findings make it apparent that young people care about the natural environment. Concern about environmental matters exists among students from disadvantaged areas, although it is not a leading concern. A wide set of other concerns weighs heavily on their minds, often shaping their perceptions of environmental issues and problems. Data suggest the importance of the school in environmental education and the need for new opportunities for involvement for disadvantaged youth. Two appendixes discuss the sample and methodology. The questionnaire is included. (SLD)

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ED 381 599

Environmental Attitudes And Behaviors Of American Youth

With An Emphasis On Youth From Disadvantaged Areas

Conducted for:

National Environmental Education And Training Foundation

U.S. DEPARTMENT OF EDUCATION
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FOREWORD

FOREWORD

The National Environmental Education and Training Foundation was chartered by Congress in 1990 to serve as the link between the public and private sectors to facilitate partnerships in support of environmental education. We give challenge grants using a federal appropriation that flows through the Environmental Education Division in the EPA. It is our intent to fund projects that "push the envelope" of environmental education. We support endeavors that can help move the field forward and coalesce what is already there.

NEETF commissioned this survey on environmental attitudes and behaviors of disadvantaged youth in America to identify the critical gaps in environmental education so that our resources, among others, can be more effectively targeted to filling in those gaps.

Partnerships is what we are all about. We try to support projects that bring together different elements of the environmental education community. There is tremendous replication in this field, and reducing this redundancy is critical. This survey will help us reduce this replication by guiding us in targeting what we find.

We believe it is important to study students living in disadvantaged socio-economic circumstances due to their higher exposure to risks; a lesser number of opportunities to experience nature; and the plethora of other critical concerns in their lives relative to environmental issues. The results of this survey should open the gateway for private and public sectors to pull their forces together to fill the gaps in environmental education.

As we look toward the future of environmental protection, we know that command and control approaches have only a limited role. A better approach is to create an environmentally literate workforce and citizenry that will take personal and professional action to prevent pollution before it occurs. This research will put us on the road toward achieving environmental protection through action by each and every American.

Francis P. Pandolfi
Chairman, NEETF
President & CEO,
Times Mirror Magazines

INTRODUCTION

INTRODUCTION

This report presents the findings of the third of a three-phase project investigating young people's attitudes toward the environment. The research was commissioned by The National Environmental Education and Training Foundation (NEETF) and conducted by Roper Starch Worldwide. Funding was provided by the U.S. Environmental Protection Agency.

The objective of the research is to gain an understanding of environmental knowledge, behavior and attitudes among students in general across the nation but with an emphasis on students from disadvantaged neighborhoods. Although past research has addressed knowledge of the environment among both adults and young people, there is little information available about disadvantaged children and their relationship to the environment. Other research has indicated that young people from disadvantaged areas are often exposed to higher levels of environmental hazards than children from other areas. Moreover, research has also shown that disadvantaged students generally have less opportunity to experience the natural environment, as well as fewer opportunities or incentives to focus their attention or energy on the environment, presumably because more pressing concerns such as crime and the economy take precedence in their lives. This study searches to better understand students from disadvantaged areas, filling the gap in current knowledge and laying the groundwork for future environmental education efforts targeted at this constituency.

Phase I of this project consisted of qualitative research among disadvantaged students. Nine focus groups were conducted in three cities: New York, Chicago, and Los Angeles. Participants in the focus groups varied by gender and age: Two groups of boys and girls ages 8-10; one of girls 11-14; one of boys 11-14 and one of girls 15-17. The final focus group included boys aged 15-17. These groups were a rich source of data for developing some general hypotheses to be explored and tested in the quantitative phases of the research.

Phase II was a nationwide quantitative survey of students in grades 4 through 12 nationwide. A national cross-section of 982 students were interviewed for this phase, using a school-based data collection methodology. This phase of the project provides an overall look at students and their attitudes toward the environment, allowing comparisons by gender, grade and region. This phase also allows for a comparison of the attitudes, knowledge and behaviors of a cross-section of students nationwide and a small subsample of students from disadvantaged areas. (Students from disadvantaged areas are young people in areas where 30% or more of the population is below the poverty line; see Methodology for greater detail.) Qualitative assessments of similarities and differences between these two groups provide directional input into the final phase of this research, a quantitative survey among students from disadvantaged areas only.

Phase III, the final phase of the project, was conducted in the Fall of 1994. This phase consists of an in-depth quantitative survey based on 2,139 interviews among students from disadvantaged areas only, again using a school-based methodology. A full description of the school-based design is found in the Methodology section of this report. The initial two phases of the research have provided valuable input into the design of this final phase. Furthermore, the results of Phase II provided national norms and a subsegment of 818 "youth from non-disadvantaged areas" with which young people from disadvantaged areas from this Phase III survey are compared.

This report is divided into four sections. Chapter One looks at perceptions of the natural environment in the context of other societal issues and the concerns young people have about specific environmental problems. This chapter also contains an examination of the student population by groups, by means of a cluster analysis. Chapter Two explores environmental education, from overall knowledge today to the issues young people would like to know more about. Chapter Three examines the environment in the day-to-day lives of students today, looking at conditions in local neighborhoods as well as at actions taken by young people to benefit the natural environment. Finally, Chapter Four tests the appeal of various approaches that might expand the environmental horizons of young people, assessing the sources of information they would most like to turn to learn more about the environment, as well as their interest and actual participation in groups that work for the environment.

In addition, there are two appendices to this report. Appendix A details the deographic profile of students in both disadvantaged and non-disadvantaged areas. Appendix B details the procedures used in the cluster analysis and the path analysis. Many of the charts throughout the report refer to specific questions from the actual survey; a questionnaire after the Appendices provides exact question wording.

OVERVIEW

OVERVIEW

Young people today care about the natural environment. They realize that the natural environment, from parks to beaches to water and air, is affected by the actions of Americans both young and old. The environment is a part of their lives and many young people express a good deal of knowledge about it and report interest in learning more. Concern about environmental matters exists among students from disadvantaged areas, as it does among their non-disadvantaged counterparts, though a wider set of other concerns weighs heavily on their minds, often shaping their perceptions of environmental issues and problems.

Perceptions

There are many problems facing this nation today, one of which is harm to the environment. Young people worry about these and other problems, such as AIDS, kidnapping, guns and the economy, though differences arise when comparing youth from disadvantaged areas with youth from non-disadvantaged areas. Disadvantaged students are significantly more likely to be "very worried" about a variety of issues facing the nation today, but not when it comes to the harming of the natural environment. For this issue, students from disadvantaged areas are significantly less likely than students from non-disadvantaged areas to be very worried. Among non-disadvantaged students, concern about harm to the environment (51%) places second behind only AIDS (64%) and just ahead of kidnapping (50%); among students from disadvantaged areas, the environment places sixth (43%), after AIDS (72%), kidnapping (55%), the number of people with guns (54% vs. 48% of non-disadvantaged students), crime and violence in the neighborhood (50% vs. 34%) and the economy (44% vs. 39%).

The difference is even more dramatic when young people were asked which two or three of these issues they personally would most like to address: 39% of students from non-disadvantaged areas name the environment (2nd again behind only AIDS) compared to 23% of students from disadvantaged areas, placing it eighth, ahead of only illegal drugs and the number of parents getting divorced. In contrast, students from disadvantaged areas are more interested than their non-disadvantaged peers in wanting to help the homeless (37% vs. 31%) and crime and violence in their neighborhoods (27% vs. 21%).

Students today differentiate among the various environmental issues, considering some to be more serious than others. Damage to the ozone layer, air and water pollution, shortages of drinking water and hazardous waste lead the list of issues students consider to be the most serious problems. And generally, students from disadvantaged areas and non-disadvantaged have a similar perspective, seeing eye to eye on 13 of 19 environmental problems asked about. But, in several areas there are disparate attitudes between students in disadvantaged areas and students in non-disadvantaged areas. Destruction of the rainforest and too little recycling are greater concerns to non-disadvantaged students than among students from disadvantaged areas (by margins of 10 points and 6 points, respectively). On the other hand, shortages of good drinking water (6 points higher among students from disadvantaged areas), acid rain (+7 points), lead poisoning (+18 points) and not having enough energy (+13 points) are named by greater percentages of disadvantaged students.

It is from this examination of the environmental issues students consider "the most serious" that the cluster analysis is drawn. This statistical process produced five distinct groups of students. Group I focuses on issues that are immediate and local in nature: Air pollution; shortages of drinking water; shortages of energy. Group II considers just one issue

serious: Shortages of good drinking water. Group III considers every environmental issue "one of the most serious," while Group IV is generally unconcerned about the environment and its problems. Finally, Group V focuses on the more long-term issues, such as destruction of the rainforest and endangered animals, plants, insects. (See Chapter I, Section C for greater detail.)

Why do students feel society should protect the environment? We asked about the environment, both in general, and specifically about reasons to protect water from pollution or reduce the amount of litter or garbage. For each of these issues, protection of human health is by far the most important reason, as it is among American adults. Seven in ten students from disadvantaged areas say this is the reason for protecting the environment in general, and the reason to protect water from pollution; a 54% majority also cite health as the number one reason for reducing litter. Students from non-disadvantaged areas hold the same perspective.

Lesser numbers want to protect the environment to help plants and animals, to keep the environment clean for future generations or for their immediate use and gratification. Here, however, the perspective of students from disadvantaged areas and those students from non-disadvantaged areas begins to diverge, with students from disadvantaged areas focusing more on what affects them personally, and students from non-disadvantaged areas focusing more on plants and wildlife. For example, 40% of students from disadvantaged areas feel water should be protected to protect plants and animals, compared to 51% of students from non-disadvantaged areas; likewise, 44% of students from non-disadvantaged areas feel that reducing litter will help protect plants and animals, compared to 35% of students from disadvantaged areas. In contrast, students from disadvantaged areas are more likely to cite protecting areas for use today as a reason for reducing litter (41% vs. 34%) and as a reason

for protecting water from pollution (28% vs. 24%). Students from disadvantaged areas also cite protecting water-dependent industries more often than students from non-disadvantaged areas (16% vs. 10%). The differences can be traced to the focus of the environmental problems. In other words, the issues of greater concern to students from disadvantaged areas are more local and immediate in nature, whereas those generally of greater concern to students from non-disadvantaged areas are on a less immediate, perhaps more future scale.

Knowledge

How much do young people feel they know about the environment in general? Although relatively few say they know "a lot" about the environment (about 1 in 8 for both disadvantaged and non-disadvantaged youth), nearly half say they know "a fair amount" about environmental issues and problems. So, despite its lesser priority in their lives, students from disadvantaged areas feel they know as much about the environment as their non-disadvantaged counterparts. Still, one-third of students from disadvantaged areas and one-quarter of students from non-disadvantaged areas report that they know "only a little" or "practically nothing" of the subject.

When asked how much young people feel they are learning about the environment in school, students from disadvantaged areas are significantly more likely than those from non-disadvantaged areas to report learning either "a lot" or "a fair amount" on the subject (48% vs. 38%). Further, there is a clear correlation between the amount of learning in school reported by these students, and their self-reported knowledge about the environment, which also correlates with concern about and involvement with the environment. This may be an important result to focus on, an indication that school is evidently an effective way to reach, educate and motivate students from disadvantaged areas to work for the

environment. However, this process should start early in school, as the survey suggests that learning about the environment in school decreases markedly with schooling, from 76% of 4th and 5th graders and 52% of 6th, 7th and 8th graders to 26% of 9th and 10th graders and 30% of 11th and 12th graders.

Students from disadvantaged areas were asked to name the various ways they have learned about the environment in school, as well as their opinion about the one most effective method. The vast majority say that a regular science class (73%) is one of the ways they have learned about the environment in school. Field trips to museums, parks or zoos place a distant second (44%), followed closely by "some other class such as English or Social Studies" (40%). These are also cited by students from disadvantaged areas as the three most effective ways (in the same rank order) to learn about the environment in school, with science class the clear leader. As with overall learning in school, use of several of these methods decreases with schooling. For example, going to an assembly about the environment falls from 36% in grades four and five to just 14% in grades eleven and twelve. Going on field trips and "some other class such as English or Social Studies" also follow this pattern.

Regardless of where they gather their knowledge of the environment, young people perceive themselves as better educated about some environmental issues than they are about others. When asked which of nineteen issues they feel they know the most about, air pollution, too little recycling, endangered plants, animals, insects and damage to the ozone layer top the list. Only two issues vary significantly among students from disadvantaged areas and students from non-disadvantaged areas: destruction of the rainforest (highest among students from non-disadvantaged areas at 33%, versus only 22% for students from non-disadvantaged areas) and shortages of good drinking water (highest among students from

disadvantaged areas at 16% vs. 10% for students from non-disadvantaged areas). With regard to the issues they want to know more about, damage to the ozone layer, destruction of the rainforest, global warming and endangered plants, animals, insects top the list.

Among students from both disadvantaged and non-disadvantaged areas, there are several issues where interest in learning more far exceeds current knowledge, as well as some for which current knowledge far exceeds the desire to learn more. The latter issues appear to be those that are relatively "mature issues," meaning youth (and the public as a whole) have had the opportunity to become familiar with these topics. These include recycling, litter and air pollution.

For other issues, which may be characterized as "emerging issues" — global warming, acid rain and destruction of wetlands — the differences indicate that students want to know more than they know now. These issues, along with several which are high in both the current and desired knowledge (endangered plants, animals and insects, damage to the ozone layer, and destruction of the rainforest) are perhaps the ones where educators may wish to focus on when planning programs for educating young people about the environment if their interest and enthusiasm is to be maintained.

Impacts and Actions

Pollution and other problems that threaten neighborhoods and the nation are often seen by young people today as affecting everyday life. Air pollution, litter and damage to the ozone layer are problems most often named as personally affecting students every day. There are several key differences between disadvantaged and non-disadvantaged students: Those from disadvantaged areas are significantly more likely to report that shortages of good drinking water (45% vs. 33% of non-disadvantaged

students), lead poisoning from water and paint (32% vs. 21%) and pollution from toxic dump sites (28% vs. 18%) affect them every day. There are no issues which non-disadvantaged students report experiencing significantly more often than students from disadvantaged areas.

To further document the experiences and concerns students from disadvantaged areas have about water, these young people were asked whether they have or ever had reason to suspect a lack of good drinking water. Nearly half (44%) of disadvantaged students report that they have had problems with or suspicions of their supply of drinking water. The most often cited reasons for this suspicion are the taste of the water, the look of the water and the smell of the water.

Today's young people apparently believe they can make a difference, a belief reflected in the high numbers who report taking various steps to aid the environment. Saving energy by turning off lights is the most practiced of ten listed activities that serve to benefit the environment among both disadvantaged and non-disadvantaged students. Other actions taken by young people include returning bottles and cans to recycling centers, saving water or cutting down on littering. However, students from disadvantaged areas are significantly less likely than those from non-disadvantaged areas to engage in several activities, most notably returning bottles and cans to recycling centers (53% vs. 71%), which is consistent with their lower levels of concern about solid waste issues.

Motivation

Television, the premier medium for news and entertainment among adults, tops the list of methods currently used by today's students to learn about the environment. Over 7 in 10 students from disadvantaged and non-disadvantaged areas say they get environmental information from television news and nature programs. School is the second most likely

source for information among young people, cited by about half of students from both disadvantaged and non-disadvantaged areas. Each of the 14 possible sources are cited by similar percentages of students from disadvantaged and non-disadvantaged areas.

The preferred sources of environmental information are similar to those currently used: Television again tops the list, followed by school, going to museums or zoos, and the family. School (higher among students from disadvantaged areas) and museums and zoos (higher among students from non-disadvantaged areas) are the only preferred sources that differ significantly between these two groups. In fact, school as a preferred source of environmental information is highest among students from disadvantaged areas in grades 4 and 5 (60%) and lowest in grades 11 and 12 (47%), a trend also seen in participation in environmental groups — decreasing dramatically from grades 4 and 5 to grades 11 and 12. By comparison, school as a preferred source for learning about the environment does not change by grade among students from non-disadvantaged areas.

An especially encouraging result of the research is the high level of interest young people express in wanting to work for a better natural environment. Two-thirds of students from both disadvantaged and non-disadvantaged areas say they would be either very or somewhat interested in working with others or joining a group or club to benefit the environment. Not only is the interest there, but many young people say it would not be too difficult to get involved: Six in ten students from disadvantaged areas and two thirds of students from non-disadvantaged areas feel it would be very easy or sort of easy for them to get involved in helping the environment.

Despite the high levels of interest in joining a group or club to work for the environment, just two in 10 report that they have joined groups or clubs, either at school or in the community, that actively work to improve the environment. However, this may reflect a lack of awareness more than a lack of interest, as only four in 10 students from either disadvantaged or non-disadvantaged areas are aware of environmental groups either at school or in the community. In other words, about half of those aware of such programs are involved, an indication that increased awareness may lead to increased involvement.

Tapping the zeal of those young people interested in working for the environment is key for the future of the environmental movement. Finding new avenues of involving young people, perhaps through the sources they use and prefer to use to learn about the environment, may be one route to take. Of a list of 15 specific activities to promote interest and increase participation in the environment, the most promising are going camping or hiking/spending more time closer to nature and winning coupons for things in exchange for cleaning up litter or recycling. Interest in most items is similar among students from disadvantaged and non-disadvantaged areas, with two exceptions: spending more time with nature in 11 percentage points lower among students from disadvantaged areas (47% vs. 58%), reflecting their relative lack of interest in the "plant and animal" aspect of environmental protection; and winning prizes for writing raps songs about the environment, which is 9 points higher among students from disadvantaged areas (21% vs. 12%).

CHAPTER ONE: PERCEPTIONS

CHAPTER ONE: PERCEPTIONS

In recent years, the quality of the natural environment has become an issue of concern to many adult Americans and to their offspring as well. This chapter explores where the environment fits in the minds of students today, the environmental problems young people consider most serious, and possible reasons for protecting the environment from harm.

Although concern about harming of the natural environment is high among "all students," it is of lesser concern to students from disadvantaged areas. And unlike "all students" few young people from disadvantaged areas consider the environment one of the two or three issues facing Americans today that they would like to help address. Further, specific problems that students from disadvantaged areas consider "the most serious" vary considerably from those selected by those from non-disadvantaged areas. A cluster analysis is presented in this chapter which describes 5 distinct types of students when it comes to environmental concerns and highlights differences between students from disadvantaged and non-disadvantaged areas.

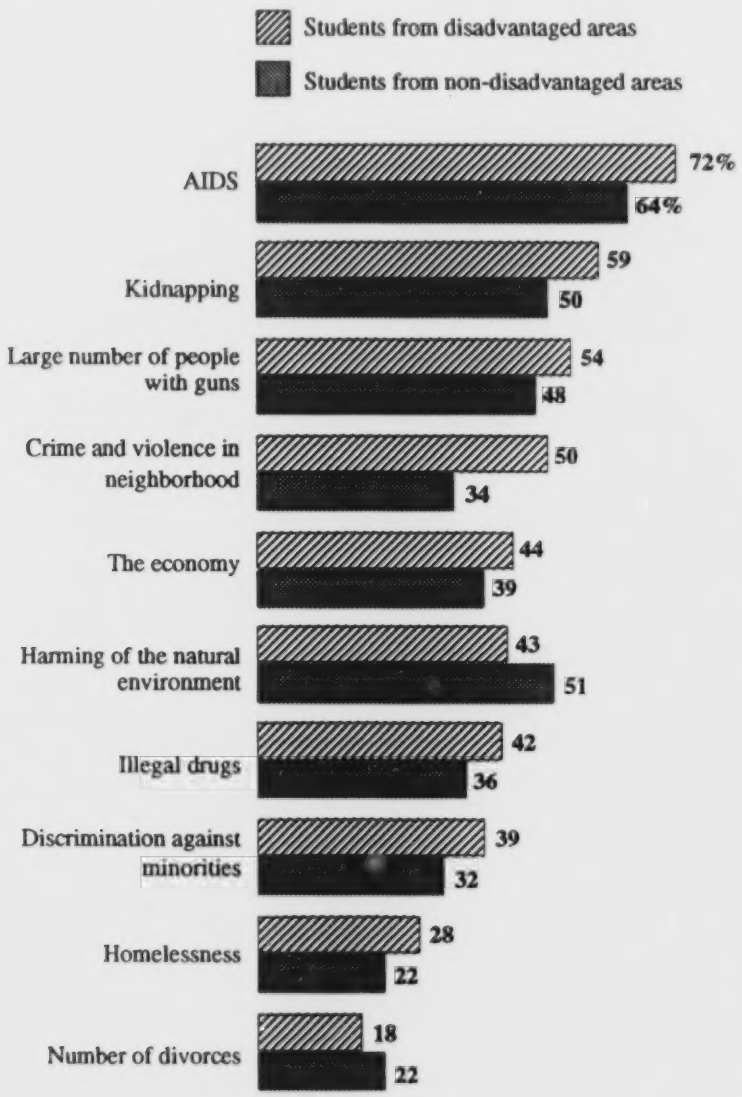
A. Environment a Leading Concern to Non-disadvantaged Students, but Not to Disadvantaged Students

Young people today are facing issues and problems relatively unknown to previous generations. AIDS, the environment and homelessness are getting greater attention in the media than ever before, and the concerns of American youth in grades 4 through 12 reflect this trend.

Students from disadvantaged areas have very different concerns than those from non-disadvantaged areas, perhaps a reflection of the neighborhoods in which they live. In fact, students from disadvantaged areas are significantly more likely to be "very worried" about most of the ten issues facing the nation about which they were asked, with one key exception — harming of the natural environment. (Possible confusion over the use of the term "natural environment" does not come into effect, as the focus groups in Phase I of this research demonstrated that students report that the term refers to everything from acid rain to trees to the water that people drink.) For this issue, students from disadvantaged areas are significantly less likely than students from non-disadvantaged areas to be very worried. Among non-disadvantaged students, concern about harm to the environment places second behind only AIDS; among students from disadvantaged areas, the environment places sixth. Concerns that are higher than the environment in the minds of students from disadvantaged areas include kidnapping, the large number of people with guns, crime and violence in local neighborhoods and the economy.

Major Concerns [Q.3]

(% saying they are very worried)



Looking at areas of concern by gender, girls from disadvantaged areas exhibit higher levels of concern than boys on most issues, a trend seen often in the data. For example, 79% of girls are very worried about AIDS, compared to 65% of boys. Perhaps in keeping with the "macho" image of men, far fewer boys from disadvantaged areas than girls say they are very worried about kidnapping (47% vs. 69%), guns (48% vs. 60%) or crime in the neighborhood (45% vs. 55%). With regard to concern about harm to the natural environment, however, students from disadvantaged areas differ from students from non-disadvantaged areas. Gender and region are not significant influences on the opinions of youth from disadvantaged areas, as boys (43% are "very worried") are just as concerned about the environment as are girls (42% are "very worried"); among non-disadvantaged youth, however, gender remains a factor as 57% of these girls are "very worried" compared to 45% of boys.

Looked at by region, there is less difference among students from disadvantaged areas than among those from non disadvantaged areas. Non-disadvantaged students in the West (59%) and Northeast (54%) are more likely to be "very worried" than non-disadvantaged students in the Midwest (43%) and South (48%), the differences are less apparent among students from disadvantaged areas, ranging from 37% in the Northeast to 45% in the West.

Urban students from disadvantaged areas are often more worried about these problems than rural students from disadvantaged areas. For example, students from urban areas are more concerned about the number of guns (57%) and crime and violence in their neighborhood (54%) than are rural students (48% and 43%, respectively). However, concern about harm to the environment is similar, at 42% among urban students from disadvantaged areas and 44% among rural students of this group.

The racial or ethnic background of a young person is another influencing factor on the data. White students from disadvantaged areas generally show lower levels of concern than blacks or Hispanics. For example, 38% of white students from disadvantaged areas say they are very worried about crime and violence in the neighborhood, compared to 61% of black students and 51% of Hispanic students. With regard to harm to the environment, however, white students from disadvantaged areas (50%) and Hispanics students (46%) are more likely to be very worried than black students from disadvantaged areas (34%).

Summary Table: "Very Worried" About Harm to the Environment, by Key Demographic Groups

	Students from Disadvantaged Areas	Students from Non-disadvantaged Areas
	%	%
Total	43	51
Boys	43	45
Girls	42	57
4th-5th	56	56
6th-8th	37	61
9th-10th	40	43
11th-12th	39	36
Urban	42	47
Rural	44	51
White	50	52
Black	34	31
Hispanic	46	55
Northeast	37	54
Midwest	42	43
South	44	48
West	45	59

An effective way to see the relationship between education and concern about the environment is to examine young people's concerns and their self-reported environmental education. Students from disadvantaged areas who say they know "a lot" about the environment (see Chapter Two, Section A for more details) are far more likely to be worried about the state of the natural environment than students from disadvantaged areas who say they know "only a little" or "practically nothing" about the environment in general, by a 67% to 31% margin.

Similarly, by a margin of 55% to 40%, students from disadvantaged areas who say they learn a lot about the environment at school are more likely than those who learn only a little/practically nothing to be worried about the environment.

These are the same trends as occur among students from non-disadvantaged areas.

Major Concerns, by General Environmental Knowledge and Learning in School [Q.3]

(% saying they are very worried)

	General Knowledge about Environment				Learning in School about Environment			
	Students from Disadvantaged Areas		Students from Non-disadvantaged Areas		Students from Disadvantaged Areas		Students from Non-disadvantaged Areas	
	A lot	Little/ Nothing	A lot	Little/ Nothing	A lot	Little/ Nothing	A lot	Little/ Nothing
	%	%	%	%	%	%	%	%
AIDS	72	72	59	66	84	71	69	64
Kidnapping	62	56	65	50	76	51	67	47
Large number of people with guns	58	50	54	43	70	46	65	47
Crime and violence in neighborhood	50	48	43	35	59	43	55	32
The economy	49	41	52	40	55	44	51	39
Harming of the natural environment	67	31	75	33	55	40	67	49
Illegal drugs	52	37	41	28	60	34	57	31
Discrimination against minorities	41	36	40	30	44	40	40	30
Homelessness	36	25	38	19	40	26	40	22
Number of divorces	27	16	18	23	28	16	36	18

B. Having an Impact: Different Priorities

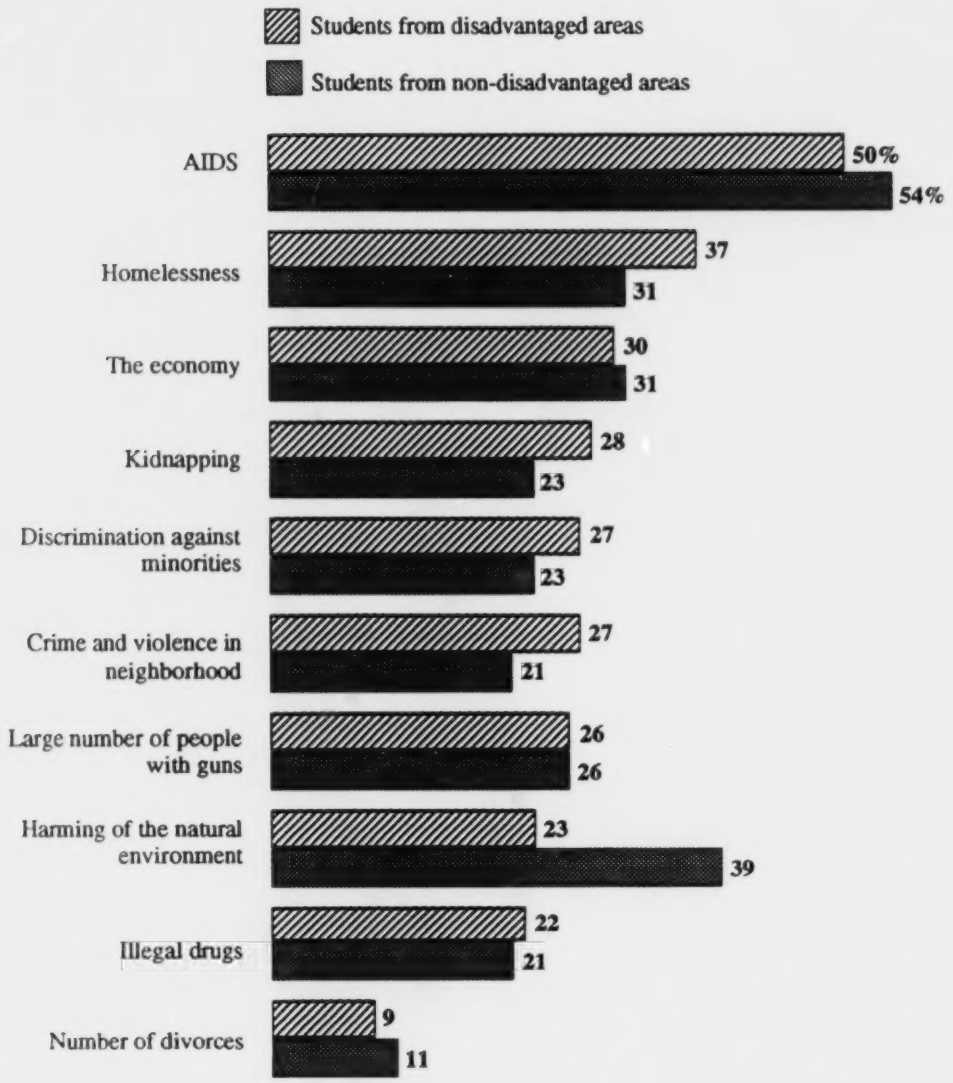
After being asked about their level of concern, we then asked which of those ten problems facing the nation these students would personally like to help make better. AIDS again tops the list, far ahead of all other concerns.

The concern about harm to the natural environment seen earlier translates for some students into the desire to help make the natural environment better. This attitude, however, is far stronger among students in non-disadvantaged areas (39%, placing it second on their list of issues to make better) than it is among students in disadvantaged areas (23%), who place it eighth on their list, a reflection of the different problems these two groups of young people face.

Non-disadvantaged and disadvantaged students share similar attitudes toward most other issues, with the exception of wanting to lessen homelessness and crime and violence in local neighborhoods. Both of these issues emerge as significantly stronger wishes among those from disadvantaged areas.

Having an Impact [Q.4]

(top 2 or 3 things would like to help make better)



Among demographic subgroups, the desire to lessen harm to the environment among students from disadvantaged areas is highest in the West (32%), where concern is high, and lowest in the Midwest (18%), where concern is lower. Region does not figure especially in the wish to address the other issues facing the nation.

Among students from disadvantaged areas, only two problems vary considerably between urban and rural areas, the economy (more of a priority in rural areas, 36% to 26%) and the large number of guns (more of a priority in urban areas, 30% vs. 19%). Students from disadvantaged areas in rural areas are slightly more likely than their urban peers to place a priority on helping the environment, 26% to 21%. For students from non-disadvantaged areas, the gap is wider -- it is 10 points higher among those in rural areas (38%) than it is in urban areas (28%).

Summary Table: Having an Impact on the Environment, by Key Demographic Groups

	Students from Disadvantaged Areas	Students from Non-disadvantaged Areas
	%	%
Total	23	39
Boys	26	39
Girls	21	39
4th-5th	18	36
6th-8th	23	48
9th-10th	25	37
11th-12th	27	31
Urban	21	28
Rural	26	38
White	34	42
Black	9	15
Hispanic	27	40
Northeast	21	38
Midwest	18	40
South	22	33
West	32	46

C. Attitudes toward Seriousness of Environmental Problems

Although students from disadvantaged and non-disadvantaged areas differ in their concern about harm to the environment, both groups of youth are able to differentiate among specific environmental issues in terms of their seriousness. Young people were asked which of nineteen issues they see as "one of the most serious environmental problems" they and the nation face. (This list is a result of the issues raised by students in Phase I of this research, the focus groups, as well as input from environmental experts.) The nineteen items fall into three broad categories: health problems; ecological problems; and aesthetic or other problems.

Those which may be considered health problems include damage to the ozone layer, air pollution and shortages of good drinking water, pollution from toxic dump sites and global warming. Pollution of water from fertilizers and pesticides used in farming and lead poisoning from water or old paint also relate to human health.

Several other problems are more ecological in nature. These include destruction of the rainforest, pollution of lakes, rivers, streams, polluted ocean waters and unsafe beaches, endangered animals, plants, insects and damage to the environment from mining/cutting trees. Rounding out the issues that can be considered ecological problems are destruction or filling in of wetlands and acid rain.

The remaining issues fit into a third broad category basically related to aesthetics. There are five such problems: Not enough open areas, not enough landfill space for trash, littering of trash and garbage, too little recycling, and not enough energy.

The major environmental concerns of students today are not necessarily confined to their neighborhood. In fact, young people are most concerned about problems that cannot be seen: damage to the ozone layer and destruction of the rainforest. Still, air and water quality rank high in the minds of today's students as serious environmental problems that they and the nation face.

Only a few issues exhibit large differences in the attitudes between students in disadvantaged areas and students in non-disadvantaged areas. Destruction of the rainforest and too little recycling are greater concerns to non-disadvantaged students than they are to students from disadvantaged areas. On the other hand, shortages of good drinking water, acid rain, lead poisoning and not having enough energy are named by greater percentages of students from disadvantaged areas. Still, for 13 of the 19 issues asked about, the opinions of students from disadvantaged and non-disadvantaged areas are similar.

These differences, however, are key to understanding the overall perspectives of youth from disadvantaged and non-disadvantaged areas or the focus of the issues themselves. Issues that are more local and immediate in nature, affecting the "here and now," are often of greater concern to youth from disadvantaged areas. On the other hand, issues that are less immediate or more long-term or even "altruistic" in nature are often of greater concern to students from non-disadvantaged areas.

"One of the Most Serious" Environmental Issues [Q.8]

	Students from Disadvantaged Areas	Students from Non-disadvantaged Areas
	%	%
Damage to the ozone layer	77	73
Shortages of good drinking water	69	63
Pollution of lakes, rivers, streams	64	62
Air pollution or smog	62	64
Polluted ocean waters and unsafe beaches	61	60
Pollution from toxic or hazardous dump sites	60	59
Destruction of the rainforest	58	68
Acid rain	55	48
Global warming	52	50
Lead poisoning from water, old paint, etc.	52	34
Damage to the environment by mining/cutting trees	51	51
Endangered animals, plants, insects	50	55
Destruction or filling in of wetlands	47	50
Pollution of water from fertilizers and pesticides used in farming	44	39
Not enough landfill space for garbage and trash	41	39
Littering of trash and garbage	41	38
Not enough energy	39	26
Not enough open areas	37	40
Too little recycling	31	37

Urbanicity figures into the opinions of students from disadvantaged areas, with disadvantaged students in urban areas generally reporting higher levels of concern than those in rural areas. For example, polluted ocean water (63% urban vs. 57% rural), destruction of the rainforest (60% vs. 54%), lead poisoning (54% vs. 47%), global warming (54% vs. 48%), damage to the environment caused by mining or cutting down trees (53% vs. 46%) and pollution of water from fertilizers (48% vs. 40%) are all issues of greater concern to disadvantaged students from urban areas. For issues that might have a bearing on their day to day lives, though, such as shortages of good drinking water, pollution from toxic or hazardous dumps sites, not enough landfill space for trash or garbage and not enough energy, the results for urban and rural disadvantaged students are remarkably similar. This indicates that concern about these problems is not limited to big, urban cities or small, rural towns, but crosses these boundaries.

Gender is less of an influence on disadvantaged students than it is on non-disadvantaged students. Whereas among students from non-disadvantaged areas girls generally express stronger sentiments than boys, there are few significant differences by gender for students from disadvantaged areas. The only exceptions to this trend among students from disadvantaged areas are shortages of good drinking water, lead poisoning from water or old paint and destruction of the rainforest, the first two of greater concern to disadvantaged girls (73% and 55%) than boys (65% and 49%), while the opposite is true for the rainforest (63% among disadvantaged boys and 53% among girls). These differences may be traced back to general concern about the environment, which was similar among disadvantaged boys and girls but markedly different among non-disadvantaged boys and girls.

Perhaps an indication that concern can be correlated with knowledge, students from disadvantaged areas who say they know a lot about the environment in general are more likely than those who know only a little or practically nothing of the subject to consider each of these issues "one of the most serious." (See Chapter Two, Section A for details on these two groups of students.) For example, fully 72% of the former compared to 54% of the latter consider the pollution from hazardous dump sites one of the most serious environmental problems. Pollution of the ocean and beaches and destruction of the rainforest are other examples of this trend.

This correlation is also seen in the amount of environmental education students from disadvantaged areas say they are getting in school. Damage to the environment caused by mining, lead poisoning and litter are topics young people are learning about in some but not all schools, for these issues exhibit the greatest differences between those who say they learn a lot about the environment in school and those who say they learn only a little or practically nothing.

These results parallel the seriousness associated with each of these issues among students from non-disadvantaged areas for both overall environmental education and learning about the environment in school.

A statistical procedure known as path analysis, used to determine the relationships between various elements in a dataset, was applied to a comprehensive environmental knowledge/ environmental action paradigm, described further in Appendix B. Part of this path model involved an examination of the hypothesized relationship between a student's self-reported environmental knowledge and the seriousness associated with various environmental issues. These two variables are linked strongly in the model; students who know a good amount about the environment in

"One of the Most Serious" Environmental Issues, by General Environmental Knowledge and Learning in School [Q.8]

	General Knowledge about Environment				Learning in School about Environment			
	Students from Disadvantaged Areas		Students from Non-disadvantaged Areas		Students from Disadvantaged Areas		Students from Non-disadvantaged Areas	
	A lot	Little/ Nothing	A lot	Little/ Nothing	A lot	Little/ Nothing	A lot	Little/ Nothing
	%	%	%	%	%	%	%	%
Damage to the ozone layer	80	74	77	74	82	77	81	73
Shortages of good drinking water	68	66	64	65	77	69	72	63
Pollution of lakes, rivers, streams	72	56	74	51	70	64	73	62
Air pollution or smog	66	58	75	56	66	62	71	64
Polluted ocean waters and unsafe beaches	75	55	76	52	68	60	78	60
Pollution from toxic or hazardous dump sites	72	54	74	49	68	58	66	57
Destruction of the rainforest	72	50	80	55	64	58	71	66
Acid rain	62	51	56	39	63	52	71	44
Global warming	62	44	65	46	61	49	63	47
Lead poisoning from water, old paint, etc.	56	52	40	31	65	46	57	31
Damage to the environment by mining/cutting down trees	66	44	70	43	66	45	73	49
Endangered animals, plants, insects	62	42	68	45	57	48	66	53
Destruction or filling in of wetlands	59	40	69	40	56	43	70	47
Pollution of water from fertilizers and pesticides used in farming	53	38	49	36	49	44	53	39
Not enough landfill space for garbage and trash	50	37	43	35	50	38	58	36
Littering of trash and garbage	51	38	56	34	57	33	69	33
Not enough energy	34	40	23	28	47	35	42	24
Not enough open areas	51	31	58	30	43	37	63	39
Too little recycling	44	26	48	30	40	29	62	34

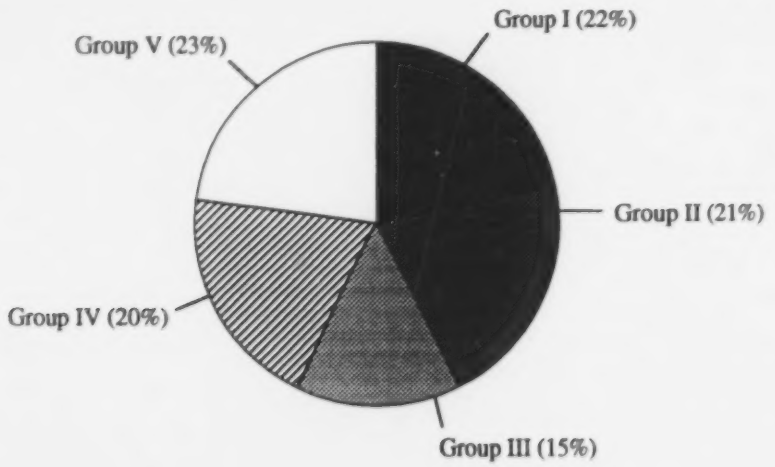
general tend to profess concern about the various environmental problems. For example, endangered animals, plants, insects and air pollution are two of the problems with the strongest relations between overall knoweldge and consideration of a problem as "one of the most serious." This relationship is significant in 15 of the 19 problems about which students were asked. Increasing environmental knowledge, then, should lead to increased concern or seriousness linked with environmental problems.

In turn, the seriousness attributed to various problems appears to lead to interest in joining environmental groups. This link holds true for 12 of the 19 environmental issues, especially too little recycling, littering of trash and garbage, endangered animals, plants, insects, damage to the environment from mining or cutting down trees, pollution of water from fertilizers, and acid rain.

Five Segments of American Students

As discussed above, not all students show the same levels of concern about each of these nineteen environmental issues. In fact, through the statistical procedure of cluster analysis, five distinct groups of students emerge, each with different concerns and demographics. (See Technical Appendix B for an explanation of the cluster procedure.)

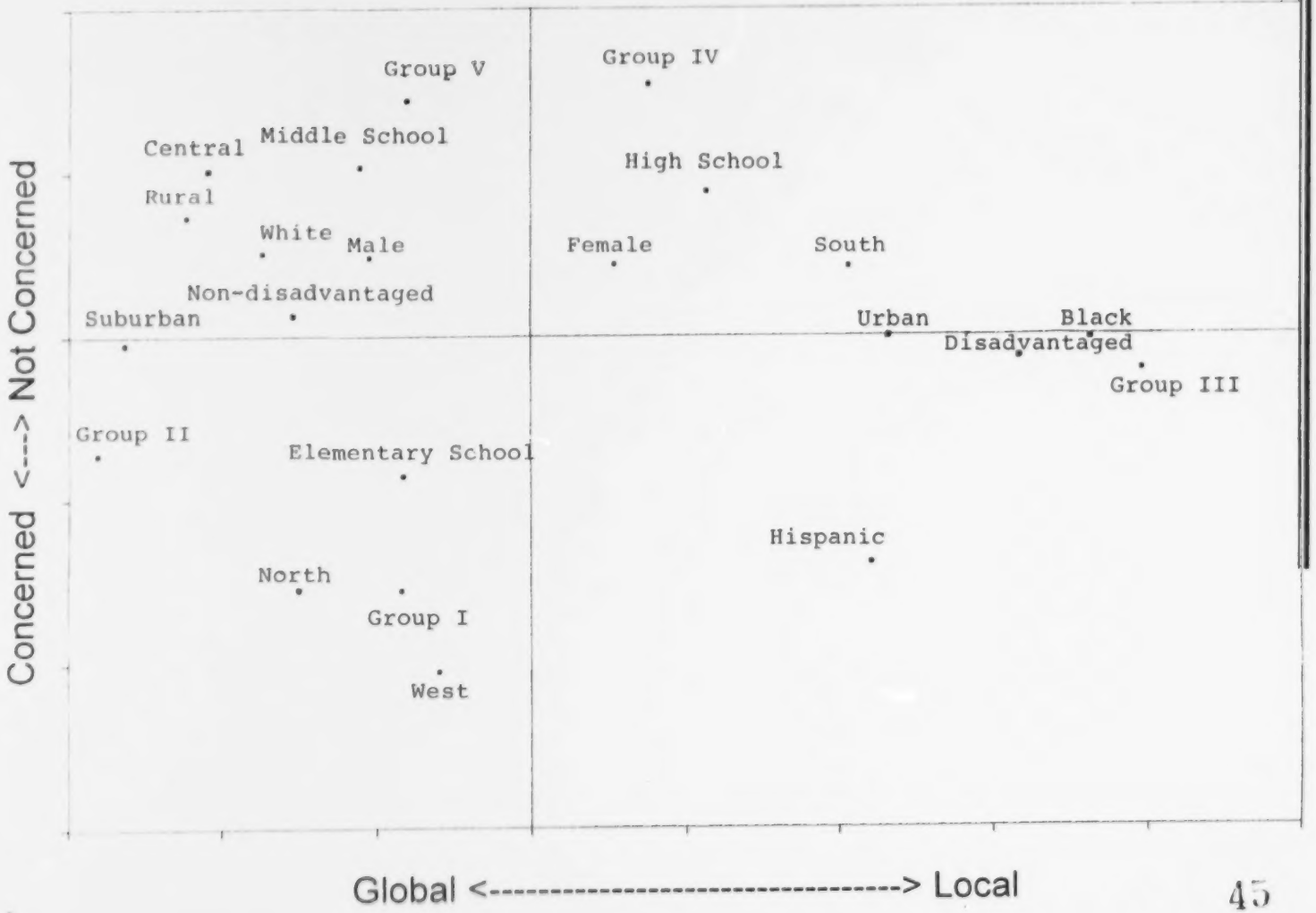
Cluster Analysis: Environmental Segments of American Students



On the next page is a map plotting the five clusters and various demographic characteristics. The map depicts four quadrants into which the five clusters fall: Concerned Global; Concerned Local; Not Concerned Global; Not Concerned Local. Thus, the map shows that students in the Northeast, Students in the West, Students in elementary school, and those in Groups I and II tend to be highly concerned about larger, more global. In contrast, students in the South, students in high school female students, and those in Group IV tend to exhibit lower levels of concern and focus more on local than global issues.

YOUTH ENVIRONMENTAL CONCERNS

Segmentation Map



Group I (22%)

The first cluster of students, which makes up 22% of all students, is the most environmentally concerned and knowledgeable group. When Group I was asked to rate the seriousness of the nineteen environmental problems, they were the most likely of the 5 clusters to name all of the nineteen issues as "one of the most serious."

With regard to the problems the nation faces in general, Group I is the most likely to be worried about each, from concern about harm to the environment (78% vs. 48% overall) to kidnapping (76% vs. 51% overall) to discrimination against minorities (53% vs. 33%).

This group reports by far the most environmental knowledge in general. Fully 77% know either a lot (24%) or a fair amount (53%) about environmental issues and problems, compared to 62% of students overall. Also, Group I reports the highest amount of learning about the environment in school — 48% report learning a lot or a fair amount versus 40% for students as a whole; however, the same percentage (48%) report learning only a little or practically nothing about the environment in school.

Group I is generally the most likely to say that the nineteen environmental problems asked about affects them personally, and they tend to practice environment-friendly activities more often than other groups. Group I is also the most likely to report being very or somewhat interested in joining environmental clubs or groups (84% vs. 66% overall), though the students

are not significantly above average in current involvement (25% vs. 20%). Interestingly, this group is the most likely to feel that government money should be spent on research that would protect the environment for future generations (48%), rather than the clean-up of neighborhoods in the present (40%). This is in sharp contrast to both Groups III and IV, who prefer clean-up today to future research.

Demographically, Group I is heavily female, with 59% girls and 40% boys. This groups also mirrors the national average with regard to race/ethnicity and disadvantaged/non-disadvantaged status. However, this cluster has the greatest percentage of students in grades 4 and 5 — 30%, versus 22% overall, and the fewest in grades 11 and 12 (14% vs. 19% overall). By region, this group is somewhat heavy in the West, and considerably below average in the Midwest. The combination of students in the lower grades and their greater presence in the West may help explain this group's strong concerns about the environment and other problems such as kidnapping, as well as their higher levels of environmental knowledge (see elsewhere in this report for details).

Group II (21%)

The second cluster of students, 21% of the population, is similar in many ways to Group I, as both concern and knowledge about the environment are high. However, this group does not consider serious every environmental problem as does Group I. Group II students are focused on more long-term issues, such as destruction of the rainforest (88% vs. 66% overall), damage to the environment caused by mining or cutting down trees (79% vs. 51%), endangered animals, plants, insects (74% vs. 55%), destruction of wetlands (71% vs. 49%) and not enough open areas (67% vs. 40%). Group II is above average in citing these same problems as the ones that affect their lives everyday.

Group II is also like Group I in concern about harm to the environment in general, with 67% considering this one of the problems facing the nation about which they are very worried. And this group places a greater priority on wanting to have an impact on harm to the environment (58%) than does Group I (43%).

This group is second only to Group I in self-reported knowledge of the environment (71% say they know either a lot or a fair amount, compared to 62% overall).

In keeping with their inclination toward the less immediate, more future-oriented concerns, Group II places a priority on research to protect the environment for future generations (47%) rather than clean-up neighborhoods today (37%).

Interest in joining environmental groups is high (81% either very or somewhat interested), though actual participation among Group II students, whether in school- or community-based programs is only about average.

Demographically, Group II is split evenly between boys (50%) and girls (50%). They are slightly above average in being in grades 4 and 5 and 6 through 8, and are close to average in all regions of the country except the South, where there are fewer than average Group II students. This group is the most heavily non-disadvantaged (89%); just 11% are from disadvantaged areas, in part explaining the group's tendency toward future-oriented environmental concerns and solutions.

Group III (15%)

The third cluster, which comprises 15% of the total student population, is significantly more concerned than other groups about localized issues that affect them personally. Thus, the concerns that define this group are damage to the ozone layer (93% vs. 74% overall), pollution from toxic or hazardous dump sites (85% vs. 59% overall), pollution of lakes, rivers, streams (84% vs. 62% overall), shortages of good drinking water (83% vs. 64% overall), acid rain (77% vs. 49% overall), lead poisoning from water, old paint (71% vs. 37% overall) and not enough energy (50% vs. 29% overall).

While this group is about average in concern about harm to the environment in general, they are 11 percentage points below average in naming the environment as one of the two or three issues on which they would like to have an impact. This may reflect the fact that they are above average in concern about the problems of AIDS (79% vs. 66% overall), the economy (59% vs. 40% overall) and homelessness (32% vs. 23% overall).

With regard to self-reported environmental knowledge and environmental education in school, these students are slightly below average (55% vs. 62% overall). However, they report higher than average levels of interest in joining a club or group that works to benefit the environment (75% vs. 66% overall).

In light of their concern about everyday, local problems, this group is more likely to feel that money to clean up the environment should be spent on cleaning up the environment today (49% vs. 40% overall) rather than on research for a better environment in the future (35% vs. 41% overall). Air pollution (65% vs 53% overall) and shortages of good drinking water (47% vs. 34% overall) are cited as issues that affect them everyday.

Demographically, Group III is the most heavily male group — 65% are boys. This group also has the largest percentages of black and Hispanic students, and is above average in the Northeast and Southern regions of the country. Group III has the largest percentage of students from disadvantaged areas in its composition (26%), perhaps a clue to their increased awareness of and concern about localized environmental problems.

Group IV (20%)

The fourth cluster of students, making up 20% of all students, is defined by one issue in particular — shortages of good drinking water. Fully 98% of this group feel this is one of the most serious environmental problems, compared to 64% overall; they are below average for every other of the nineteen issues asked about.

This group is among the least concerned about the environment in general (27% vs. 48% overall); in fact, they are average or below average in considering each of the ten problems facing the nation "very serious."

Group IV is toward the bottom of the spectrum when it comes to overall environmental knowledge: 50% say they know either a lot or a fair amount about the environment (vs. 62% overall). Not surprisingly, then, this group reports the second lowest amount of interest in joining a club or group to work for the environment (55% vs. 66% overall).

Group IV cites protecting human health as a reason for protecting water from pollution, in-line with their defining characteristic. Like Group III, this cluster of students prefers spending money on cleaning up neighborhoods today (48% vs. 40% overall).

Demographically, there are more boys (57%) than girls (42%) in Group IV. This group can be found throughout the country, generally mirroring

all students with regard to region, race/ethnicity and grade, as well the percentages of disadvantaged (18%) and non-disadvantaged (82%) students that make up the cluster.

Group V (23%)

The final cluster of students, 23% of the population, shows little to no concern about the environment. They are least likely of the five groups to name as "one of the most serious" each of nineteen environmental problems. In fact, just 3% of this group names "shortages of good drinking water" as a serious problem, compared to over eight in 10 students in Groups I, III and IV. Also, Group V is the least likely to name harm to the environment as a problem facing the nation about which they are "very worried" (20% vs. 48% overall).

While this group is not the lowest in self-reported knowledge of the environment (54% know either a lot or a fair amount self-reported, the amount of environmental education they report learning in school is the lowest of the five clusters (34% vs. 40% overall).

Perhaps as a result of their lack of concern about the environment, Group V is below average for engagement in most environment-friendly activities, though these students are about average in returning soda or beer bottles and cans to recycling centers and sorting trash for recyclables.

Demographically, Group V has by far the greatest percentage of boys — 61%, while 37% are girls. By grade, this group is heavy in grades 11 and 12 (29% vs. 19% overall), a grade set that is often faced with concerns other than the environment. Group V has the greatest percentages of students in the Midwest (33% vs. 25% overall) and West (30% vs. 21% overall). Group V is about average in its percentage of disadvantaged and non-disadvantaged students.

"One of the Most Serious" Environmental Issues, by the five Groups of Students

Issue Focus	Total	Group I (All)	Group II (Long-Term)	Group III (Local)	Group IV (Shortages of Drinking Water)	Group V (None)
	%	%	%	%	%	%
Damage to the ozone layer	74	93	81	93	67	43
Destruction of the rainforest	66	90	88	57	45	45
Shortages of good drinking water	64	96	50	83	98	3
Air pollution or smog	63	90	76	78	43	33
Pollution of lakes, rivers, streams	62	95	79	84	36	22
Polluted ocean waters and unsafe beaches	60	96	70	68	55	16
Pollution from toxic or hazardous dump sites	59	96	70	85	34	17
Endangered animals, plants, insects	55	84	74	59	32	26
Global warming	51	84	63	69	31	15
Damage to the environment caused by mining/cutting down trees	51	89	79	41	25	16
Destruction or filling in of wetlands	49	98	71	27	29	17
Acid rain	49	93	57	77	15	11
Not enough open areas	40	75	67	9	28	11
Pollution of water from fertilizers and pesticides used in farming	39	87	27	64	19	8
Not enough landfill space for garbage and trash	39	73	41	33	32	15
Littering of trash and garbage	38	81	45	26	24	12
Lead poisoning from water, old paint, etc.	37	81	15	71	20	7
Too little recycling	35	74	41	20	21	15
Not enough energy	29	50	18	50	22	10

Demographic Profiles of the Five Groups

Issue Focus	Total	Group I (All)	Group II (Long-Term)	Group III (Local)	Group IV (Shortages of Drinking Water)	Group V (None)
	%	%	%	%	%	%
Sex						
Male	47	40	50	35	42	61
Female	53	59	50	65	57	37
Race/Ethnicity						
White	66	67	71	52	65	70
Black	13	10	8	22	17	11
Hispanic	14	14	16	17	13	10
Grade						
4th-5th	22	30	25	15	19	20
6th-8th	32	29	34	37	33	30
9th-10th	26	27	21	33	29	23
11th-12th	19	14	19	15	20	29
Region						
Northeast	18	21	19	25	16	13
Midwest	25	16	28	20	24	33
South	36	36	28	42	41	34
West	21	27	25	14	19	30
Status						
Disadvantaged	17	18	11	26	18	14
Non-disadvantaged	83	82	89	74	82	86

Looked at differently, the breakdown of the segments within students from disadvantaged and non-disadvantaged areas is as follows:

		Students from Disadvantaged Areas	Students from Non-disadvantaged Areas
		%	%
Group I	(All)	23	21
Group II	(Long-Term)	14	22
Group III	(Local)	23	13
Group IV	(Shortages of Drinking Water)	21	19
Group V	(None)	19	24

Not surprisingly, the difference between disadvantaged and non-disadvantaged students are in Groups II and III.

Group II, which focuses on long-term environmental issues, has a greater percentage of non-disadvantaged students, who tend to be concerned about long-term environmental issues. On the other hand, Group III, which focuses on immediate and localized environmental problems, has a greater percentage of disadvantaged students, who tend to be concerned about localized environmental problems.

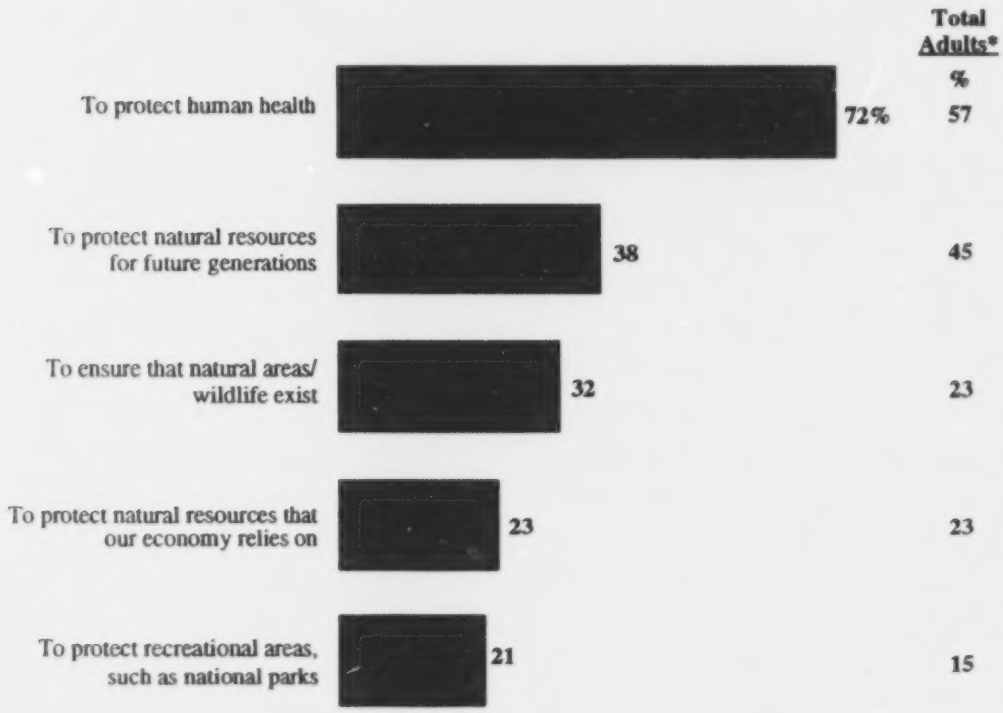
D. Protecting the Environment and Water, Reducing Litter

Having determined the two or three environmental issues they consider most serious, students from disadvantaged areas were asked about reasons for protecting the environment in general, reasons for protecting water from pollution and reasons for reducing litter. "Protecting human health" is the number one reason for protecting the environment, cited by 72% of students from disadvantaged areas. Of considerably less importance are "to protect natural resources for the use of future generations" (38%), "to ensure that natural places and wildlife always exist" (32%) and "to protect natural resources that our economy relies on" (23%). "To preserve recreational areas" is named by 21% of youth from disadvantaged areas. (Students from non-disadvantaged areas were not asked about protecting the environment in general.)

In a comparison with a national sample of adults interviewed by Roper in September 1994, students from disadvantaged areas place greater stress on protecting human health, ensuring that natural places always exist and preserving recreational areas. Adults place greater importance on protecting resources for future generations than do students from disadvantaged areas, again demonstrating the "immediate and local" perspective held by youth from disadvantaged areas.

Reasons for Protecting the Environment [Q.13]

(asked only of students from disadvantaged areas)



** From national cross-section of 2,000 adults age 18 and older, September 1994.*

Among subgroups, girls from disadvantaged areas are more likely than boys to want to protect the environment to protect human health (76% vs. 67%), though the genders are similar for the other possible reasons. By region, students from disadvantaged areas in the Northeast are the most supportive of the reason concerning the future (44% vs. 38% overall), while those in the West are far above average in their agreement with ensuring that natural places always exist (43% vs. 32% overall). Students from disadvantaged areas who reside in the Midwest cite "protecting natural resources that our economy relies on" more than youth in other regions of the country (32% vs. 23%).

Summary Table: Most Important Reasons to Protect the Environment by Key Demographic Groups

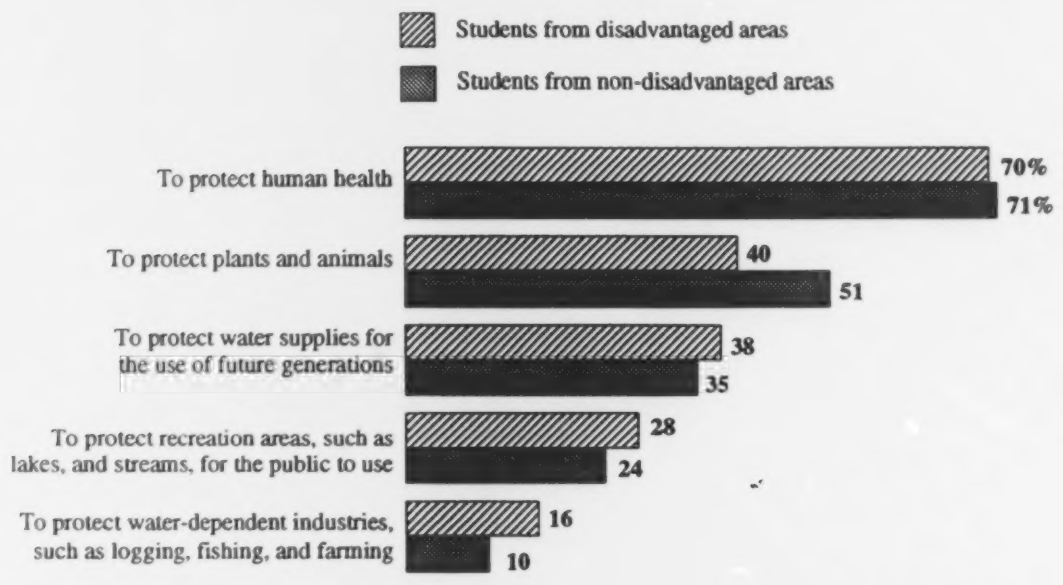
(among students from disadvantaged areas)
(multiple responses allowed)

	Protect Human Health	Natural Resources for Future	Natural Places Exist	Resources for Economy	Preserve Recreational Areas
Total	72%	38	32	23	21
Boys	67%	40	32	23	23
Girls	76%	36	31	23	19
4th-5th	73%	27	33	29	22
6th-8th	71%	42	29	18	21
9th-10th	78%	44	31	24	18
11th-12th	67%	42	33	21	20
Urban	72%	38	32	22	23
Rural	70%	39	32	25	17
White	63%	41	43	20	21
Black	76%	35	22	29	20
Hispanic	75%	41	33	19	22
Northeast	75%	44	32	20	20
Midwest	72%	34	26	32	19
South	73%	39	29	23	22
West	66%	35	43	16	21

Beyond their assessment of reasons for protecting the environment in general, students were asked about reasons for protecting two specific areas of the environment — water pollution and litter.

Starting first with water pollution, human health stands out for both students from disadvantaged areas and those from non-disadvantaged areas. Beyond this, students from disadvantaged areas are more likely to focus on keeping areas clean and nice for use today, while students from non-disadvantaged areas choose protecting plants and animals as a reason for protecting water from pollution or for reducing litter and garbage. These two perspectives, focusing on the local and immediate versus the larger environmental picture, appear often throughout the data and serve to differentiate between students from disadvantaged and non-disadvantaged areas.

Reasons for Protecting Water From Pollution [Q.14]



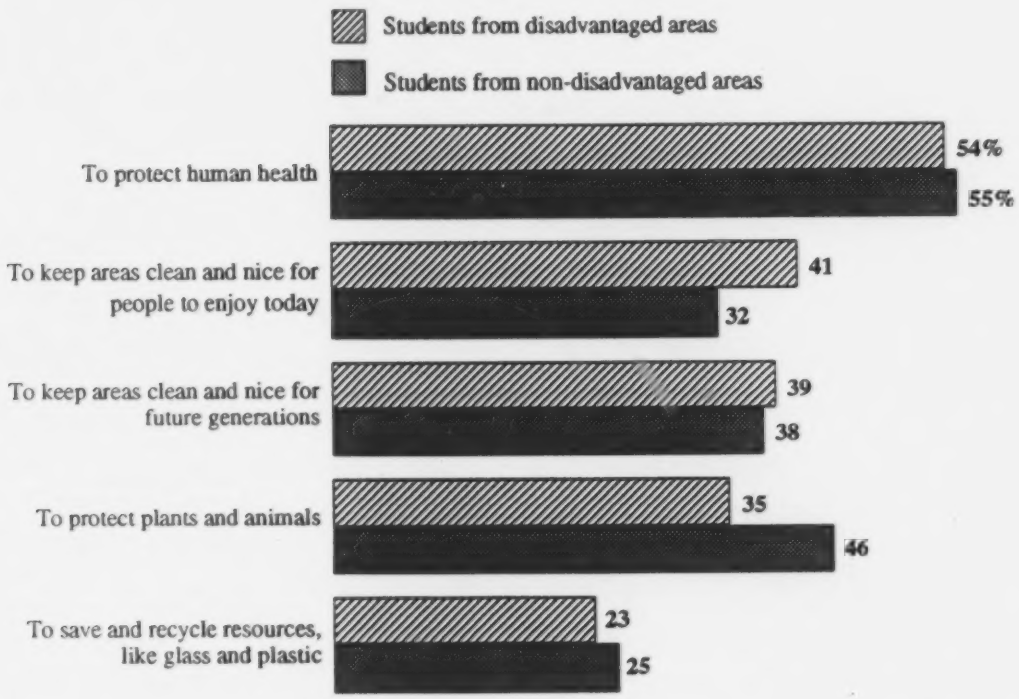
Not all young people consider litter one of the most serious environmental issues. As seen earlier, litter is an environmental problem which few students from either disadvantaged or non-disadvantaged areas consider "one of the most serious" problems (it ranks 16th of 19 issues for both groups of students).

When given a list of five reasons for reducing litter and waste, students from both disadvantaged areas and non-disadvantaged areas say protecting human health is the leading reason, though this view is not as strongly held as it is for water pollution.

Significantly fewer students from disadvantaged areas want to reduce litter to protect plants and animals (35%) than students from non-disadvantaged areas (46%), similar to the result for protecting water from pollution. Fewer than 4 in 10 students from either group cite "to keep areas clean and nice for future generations" (39% and 38%), though significantly more disadvantaged than non-disadvantaged students name "to keep areas clean and nice for people to enjoy today" (41% vs. 32%). These two differences again demonstrate the "here and now" focus of youth from disadvantaged areas compared to the future-oriented, more altruistic focus of youth from non-disadvantaged areas.

Emphasizing the need for further opportunities to recycle and educate about recycling, few students feel that a reason for reducing litter is to save and recycle resources like glass and plastic.

Reasons for Reducing Littering and Garbage [Q.15]



CHAPTER TWO: KNOWLEDGE

CHAPTER TWO: KNOWLEDGE

Young people have definite opinions about the seriousness of environmental problems, and students place differing priorities on the environmental issues that they and the nation face. This chapter explores the quantity of environmental knowledge students believe they possess, how much they are learning about the environment in school, and the issues they now know about as well as those about which they would like to know more. Some students learn about the natural environment from family, friends and the areas in which they live; others learn about the environment in the classroom. Regardless, students from disadvantaged areas know more about some issues than they do about others, and many say there are environmental problems and conditions they want to learn more about.

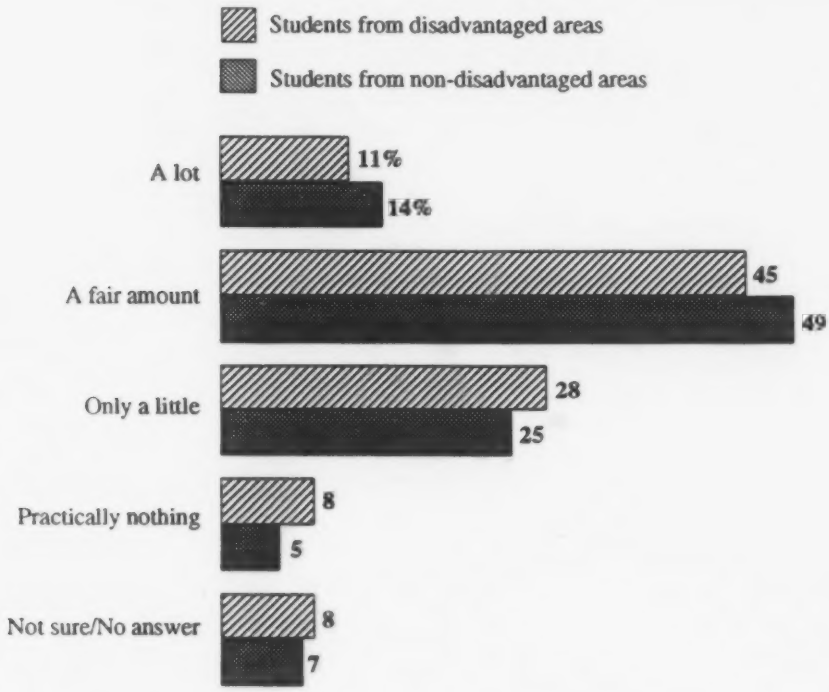
A. Overall Knowledge

"The natural environment" is as broad and varied a subject as any that Americans young and old could be asked to think about or examine. Pollution, trees, animals, water and global warming all fit under this rubric. Keeping this wide definition in mind, it is encouraging to see that over 1 in 7 students overall (14%) say they know "a lot" about environmental issues and problems, while another 48% say they know "a fair amount" about the environment. Three in ten students overall report that they know "only a little" (26%) or "practically nothing" (5%) about environmental issues and problems.

Students who say they know "a lot" about the environment are referred to frequently throughout this report. They typically demonstrate higher levels of concern, knowledge, interest in the environment and action than those students who say they know "only a little/practically nothing" about the environment.

Although students from disadvantaged areas report a slightly lower level of overall environmental knowledge ("a lot" and "a fair amount" combined) than students from non-disadvantaged areas (56% vs. 63%), the fact that over half of the students from disadvantaged areas consider themselves knowledgeable is encouraging, given the other concerns and priorities in their lives.

General Knowledge of Environmental Issues and Problems [Q.5]



There are no large differences for reported knowledge among the various grade groupings of students from disadvantaged areas. For example, by grade among students from disadvantaged areas, highest among ninth and tenth graders (60%) and lowest among fourth and fifth graders (54%). Among students from non-disadvantaged areas, however, grade is a distinguishing factor: 70% of non-disadvantaged students in grades 6 through 8 say they know a lot or a fair amount about the environment, a figure that drops to 65% of non-disadvantaged students in grades 9 and 10, 58% of those in grade 4 and 5 and 56% of those in grades 11 and 12.

Knowledge about environmental issues and problems is consistent across the four regions of the country and similar in urban and rural areas for both disadvantaged and non-disadvantaged students.

There appears to be a strong correlation between overall environmental knowledge and environmental education in school, as shown in the table titled "General Knowledge of the Environment, by Amount Learned in School." Thus, students from disadvantaged areas who say they are learning "a lot" about the environment in school, are likely to also report they are leaning "a lot" about the environment in school (23% answered "a lot" for both questions). On the other hand, just 8% of those who are learning "only a little/practically nothing" about the environment in school say they know "a lot" about the environment in general. The same pattern is true of students from non-disadvantaged areas: 25% who are learning "a lot" about the environment in school also say they know "a lot" about the environment in general, while 13% of those who are learning "only a little/practically nothing" about the environment in school also claim to know "a lot" about the environment in general.

General Knowledge of the Environment, by Amount Learned in School [Q.5]

	Learning in School					
	Students from Disadvantaged Areas			Students from Non-disadvantaged Areas		
	A lot	Fair Amount	Little/ Nothing	A lot	Fair Amount	Little/ Nothing
	%	%	%	%	%	%
Overall Knowledge						
A lot	23	9	8	25	13	13
A fair amount	47	47	45	48	52	50
Only a little	18	30	30	13	22	30
Practically nothing	5	5	11	5	5	5
Not sure/no answer	8	8	6	8	9	3

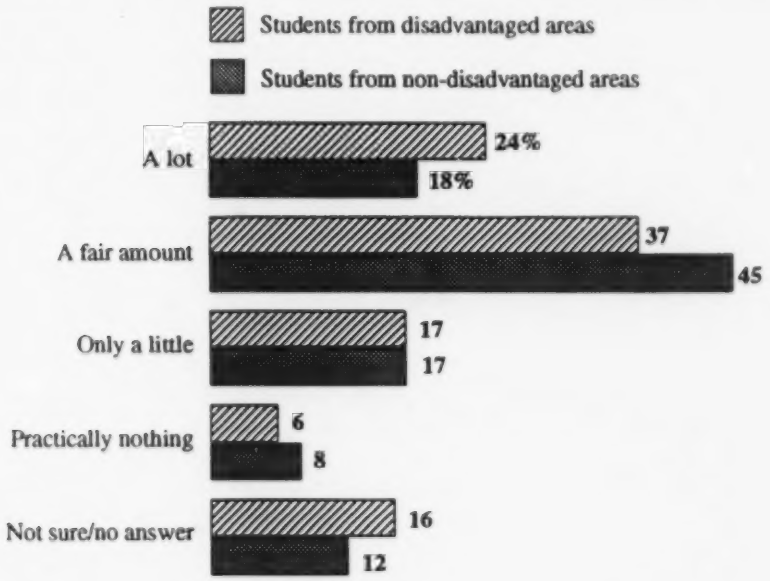
Turning again to the path analysis (described in-depth in Appendix B), we hypothesized that demographic characteristics would have an effect on overall environmental knowledge. While the four general regions of the country and a student's urban / suburban / rural background do not significantly influence environmental knowledge, disadvantaged / non-disadvantaged status does have implications. In particular, students from disadvantaged areas appear to have significantly less environmental knowledge than students from non-disadvantaged areas.

B. Estimation of Adults' Environmental Knowledge

The level of environmental knowledge young people say they personally have and the environmental knowledge they attribute to parents and other adults in the household is remarkably similar. Accordingly, as 56% of students from disadvantaged areas say they know either a lot or a fair amount about the environment, 61% of disadvantaged students say their parents know either a lot or a fair amount about environmental issues and problems. The same is true among students from non-disadvantaged areas: 63% report that both they and their parents know either "a lot" or "a fair amount" about the environment.

The similarity between felt environmental knowledge of young people and the knowledge they attribute to their parents probably indicates that some of the environmental knowledge reported by young people was

Parents' or Other Adults' Knowledge of the Environment [Q.6]



learned at home, from their parents. Students from disadvantaged areas who report they themselves know "a lot" or "a fair amount" about the environment appear to credit their parents with greater levels of environmental knowledge (73%) than do youth who report knowing "only a little/ practically nothing" on the subject (50%). (Among non-disadvantaged youth, the results are similar: 76% versus 48%.) This trend is also to some extent supported by data concerning young people's current sources of environmental information, which places "the family" fourth after television, school and newspapers (see Chapter 4, Section A: Sources of Environmental Information). Alternately, these results could also suggest that students who do not currently know much about the environment are unlikely to turn to their parents as a source of further environmental education, since they do not perceive that their parents are particularly more knowledgeable than they are, thereby suggesting the need for other sources of information and education.

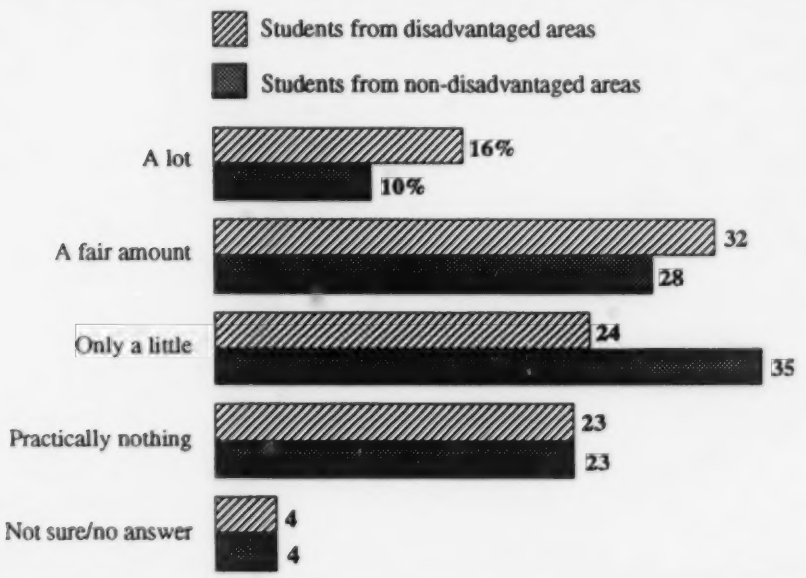
One hypothetical relationship examined in the path analysis was between the amount of environmental knowledge students attribute to their parents and a student's own self-reported environmental knowledge. The path analysis indicated a strong, highly significant positive relationship between these two variables, as predicted.

C. Learning About the Environment in School

Along with the home and the media, school is a major influence and shaper of the opinions and attitudes of young people. How much do students feel they learn about the environment in school, and in what types of classes does that learning take place? First, students were asked to think about all of their classes and to say whether they were learning a lot, a fair amount, only a little or practically nothing about the environment in school. Interestingly, students from disadvantaged areas report learning more about the environment in school than non-disadvantaged students, 48% versus 38%.

Still, large numbers of students from both disadvantaged and non-disadvantaged areas report learning "only a little/practically nothing" (47% and 58% respectively) about environmental issues in class. In other words, approximately half of all students do not feel that school contributes significantly to their environmental education.

Education About Environmental Issues in School [Q.7]



Grade level again is a key to understanding the results. Examining the combined "a lot" and "a fair amount" scores, formal classroom education about environmental issues drops dramatically as schooling increases, from three-quarters of fourth and fifth graders from disadvantaged areas to under a third of those in ninth grade or beyond. (The same pattern is true for students from non-disadvantaged areas.) This trend may be due to a changing curriculum in school as young people get older, or perhaps to a broader knowledge through experience of the natural world among older children. Or, it may reflect the fact that environmental education is just beginning to be introduced into schools and that younger children are benefiting more from this trend than older children.

Education About Environmental Issues in School, By Grade [Q.7]

(only students from disadvantaged areas are shown)

	4th-5th	6th-8th	9th-10th	11th-12th
	%	%	%	%
A lot	38	12	5	8
A fair amount	38	40	21	22
Only a little	13	25	31	31
Practically nothing	5	17	38	38
Not sure/No answer	6	7	2	2

As with parental environmental knowledge, the path analysis demonstrates that the amount of learning about the environment in school influences overall environmental knowledge (Appendix B). This relationship, while not as strong as that between parental environmental knowledge and self-reported knowledge, is statistically significant and supportive of the hypothesis that environmental education in school does influence overall environmental knowledge. Increasing the former, then, should lead to some increase in the latter.

Beyond the overall quantity of environmental education in school, students from disadvantaged areas were asked to name the various ways they have learned about the environment in school, as well as the one method they consider the most effective method. (These questions were not asked of students from non-disadvantaged areas.) The vast majority of these students say that a regular science class is one of the ways they have learned about the environment in school. This is also far and away the number one way students feel would be effective in their learning about the environment.

Field trips to museums, parks or zoos place a distant second followed closely by some other class such as English or Social Studies. Relatively few students from disadvantaged areas have taken a special class about the environment or joined a club that meets during or after school. Although few students have experienced or been part of a special environmental class or group, these methods are perhaps the keys to greater opportunity, education and involvement among students from disadvantaged areas, as they are ways that students can learn or work with their peers to share and increase environmental knowledge.

Ways Learned About Environment in School [Q.19/20]

(asked only of students from disadvantaged areas)

	Ways Learned about Environment in School	Most Effective Way to Learn about Environment in School
	%	%
In regular science class	73	43
Field trip to museum, park	44	10
In other class, such as English or Social Studies	40	9
Been to an assembly and listened to expert or group speak about environment	25	5
Participated in recycling or clean-up with school	24	4
In a geography class	21	5
In special class teaching about the environment	16	5
Joined club that meets during or after school	13	2
Other	5	3
None of these	6	7
Don't know	4	6

Just as they reported learning the most about the environment in school, the youngest students are the most likely to name most of these eight methods as a way they have learned about the environment in school. Once again, this suggests either that many schools are already encouraging and giving their youngest pupils an opportunity to learn about the environment, a trend exhibited in the amount various groups are learning about the environment, or older students do not feel they are learning from the programs being offered to them to the same degree that younger students do.

Methods Used to Learn about the Environment in School, by Grade [Q.19]

(asked only of students from disadvantaged areas)

	Total	4th-5th	6th-8th	9th-10th	11th-12th
	%	%	%	%	%
In regular science class	73	76	71	72	73
Field trip to museum, park	44	51	46	42	33
In other class, such as English or Social Studies	40	47	45	26	31
Been to an assembly and listened to expert or group speak about environment	25	36	26	22	14
Participated in recycling or clean-up with school	24	34	21	14	23
In a geography class	21	21	19	29	21
In special class teaching about the environment	16	21	15	14	13
Joined club that meets during or after school	13	20	11	4	14

Whether a disadvantaged student is from an urban or rural location also affects to some degree the means of environmental education used in school. Students in rural areas are more likely than their urban peers to report learning about the environment in regular science class (78% vs. 71%), to participate in recycling or clean-up programs with their school (28% vs. 22%) or to learn about the environment in a geography class (26% vs. 20%). Urban students, however, are somewhat more likely to say they have gone on a field trip to a museum or park (46% vs. 39%) or to have been to an assembly regarding the environment (27% vs. 22%).

As might be expected, disadvantaged students who feel they are learning "a lot" about the environment in school are more likely to report having had each of these opportunities than those who report learning "only a little/practically nothing" on the subject at school.

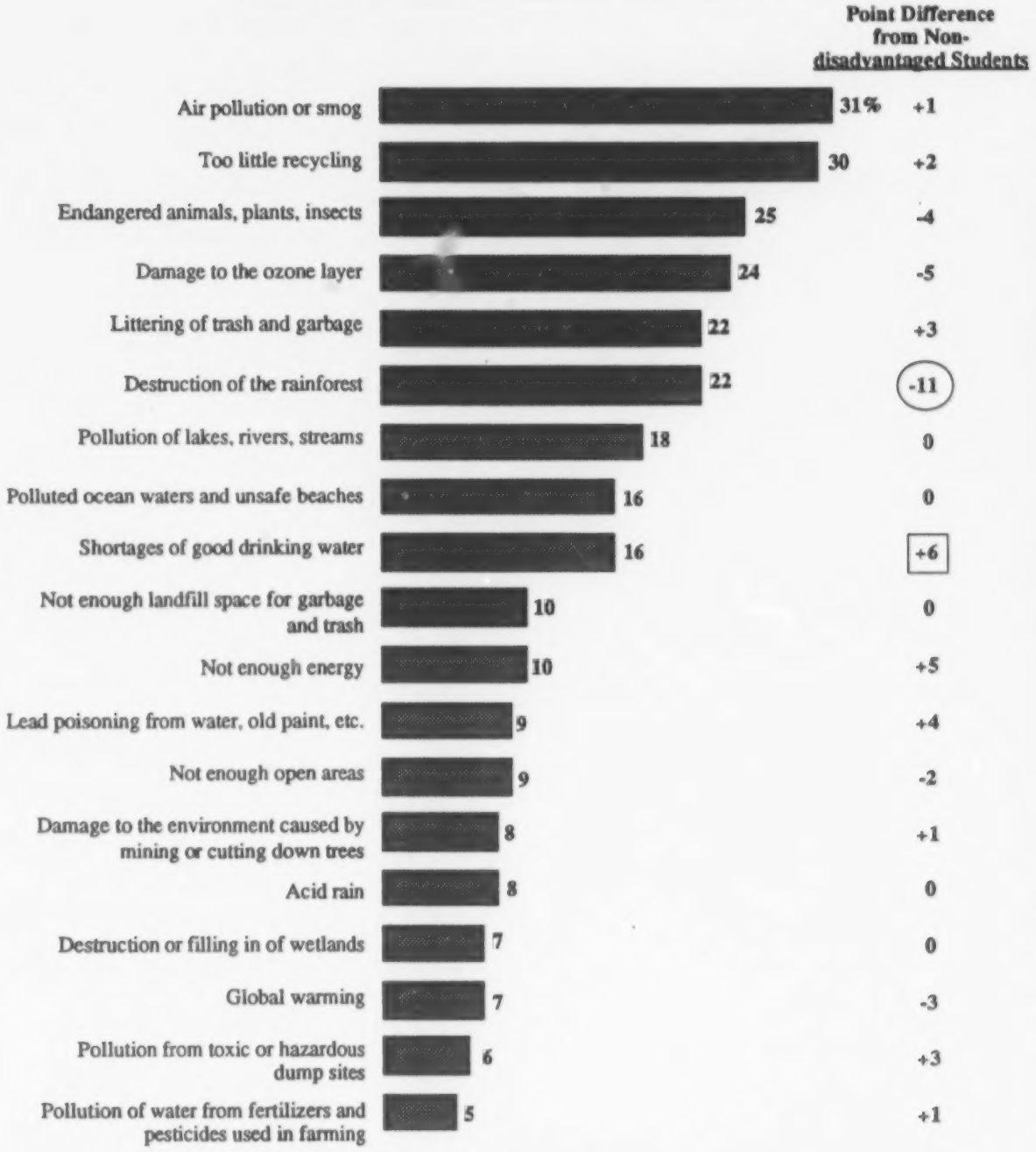
D. Specific Issues American Students Know Most About and Want to Learn More About

Regardless of where they gather their knowledge of the environment, whether from home, from school, or from both places, young people perceive themselves as better educated about some environmental issues than they are about others. Students from both disadvantaged and non-disadvantaged areas were asked which of nineteen environmental issues they feel they know the most about. (These are the same issues about which students were previously asked their concern, see Chapter One, Section C.)

Air pollution and too little recycling are the two issues young people say they know the most about. A second tier of issues students know the most about includes endangered animals, plants, insects, damage to the ozone layer, littering of trash and garbage, and destruction of the rainforest. A third tier of issues includes pollution of lakes, rivers, streams, polluted ocean waters and unsafe beaches and shortages of good drinking water.

Only two issues vary significantly among disadvantaged and non-disadvantaged students: destruction of the rainforest and shortages of good drinking water. Greater numbers of students from non-disadvantaged areas (33%) than students from disadvantaged areas (22%) say destruction of the rainforest is one of the issues they know the most about, while the opposite holds true for shortages of good drinking water, cited by 16% of disadvantaged students and 10% of non-disadvantaged students.

Issues Students Know the Most About [Q.11]


Point Difference from Non-disadvantaged Students
Air pollution or smog 31% +1
Too little recycling 30 +2
Endangered animals, plants, insects 25 -4
Damage to the ozone layer 24 -5
Littering of trash and garbage 22 +3
Destruction of the rainforest 22 -11
Pollution of lakes, rivers, streams 18 0
Polluted ocean waters and unsafe beaches 16 0
Shortages of good drinking water 16 +6
Not enough landfill space for garbage and trash 10 0
Not enough energy 10 +5
Lead poisoning from water, old paint, etc. 9 +4
Not enough open areas 9 -2
Damage to the environment caused by mining or cutting down trees 8 +1
Acid rain 8 0
Destruction or filling in of wetlands 7 0
Global warming 7 -3
Pollution from toxic or hazardous dump sites 6 +3
Pollution of water from fertilizers and pesticides used in farming 5 +1

Unlike the reasons for protecting the environment, water and reducing litter (where girls favored the "larger picture" and boys the "here and now"), when it comes to current knowledge of specific environmental issues, the attitudes of girls and boys are reversed. Among students from disadvantaged areas, more girls than boys say the lack of recycling is one of the issues they know the most about, by a 34% to 25% margin. The same holds true for littering of trash and garbage (25% among girls; 19% among boys). Boys, on the other hand, are more likely than girls to claim destruction of the rainforest (27% vs. 18%) as an issue about which they know the most, supporting an earlier result that indicated boys are more concerned about the destruction of the rainforest than are girls. (Girls, however, were not especially more likely than boys to be concerned about the recycling and trash issues.) The same gender differences hold true for students from non-disadvantaged areas for these issues — recycling, littering, and destruction of the rainforest — with the addition of endangered species as an issue about which more girls than boys feel knowledgeable. In other words, girls tend to know more than boys about issues affecting the "here and now."

There are no outstanding results by grade, region or urbanicity among students from disadvantaged areas.

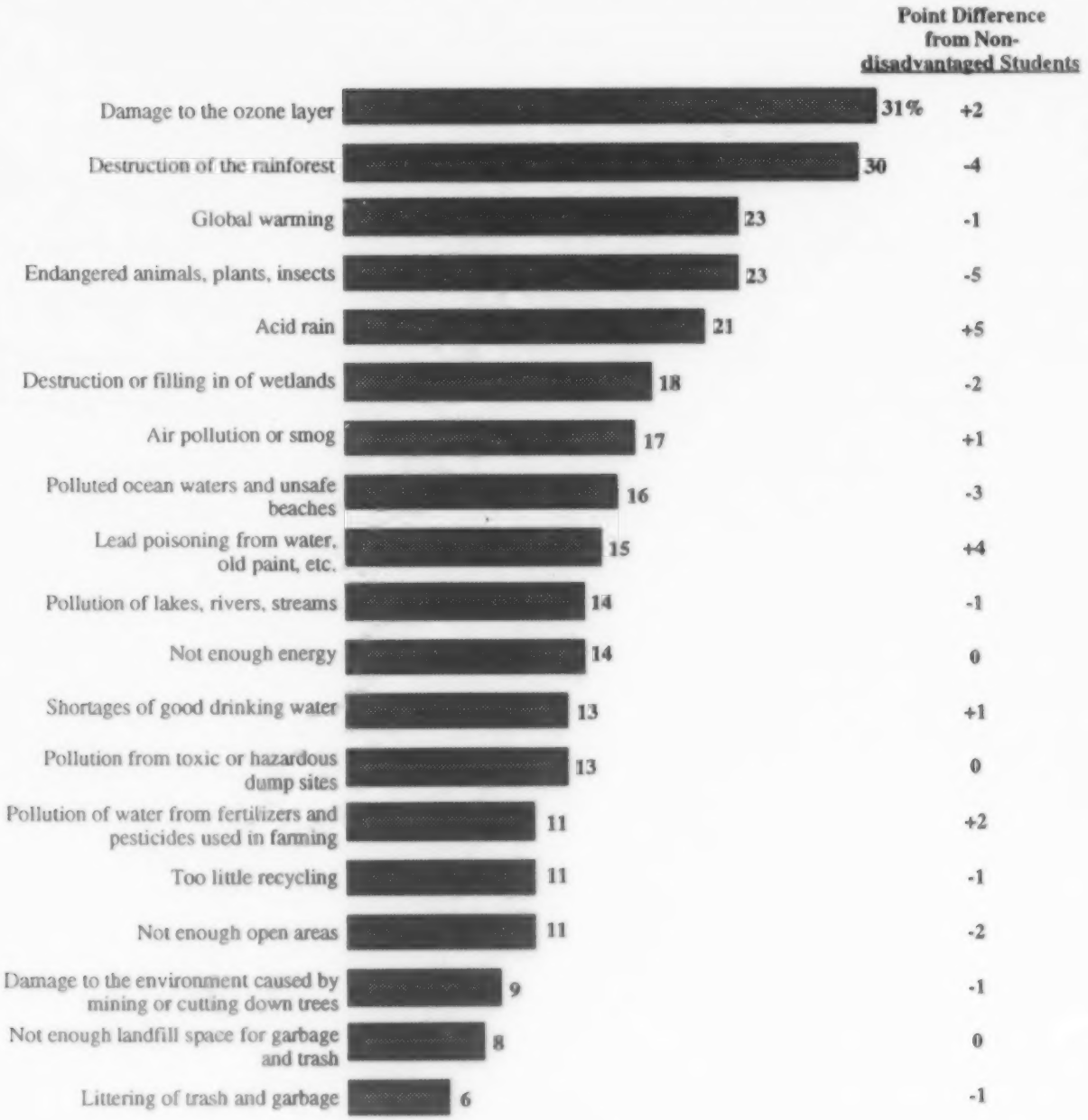
Not only were young people asked which two or three issues from the list of 19 they know most about, they were also asked which two or three of those same issues they would most like to learn more about. Though the rank order differs somewhat, the same four issues are the top priorities students from disadvantaged and non-disadvantaged areas say they want to learn more about: damage to the ozone layer, destruction of rainforests, global warming and endangered plants, animals, insects.

The desire to learn more about the rainforest is noteworthy. While this figure is fairly similar among students in non-disadvantaged (34%) and disadvantaged (30%) areas, it is very different from current knowledge of the issue, which was significantly higher among students from non-disadvantaged areas (33%) than among students from disadvantaged areas (22%).

The seriousness attributed to various environmental problems is often linked to the desire for further knowledge of those same environmental problems. As seen in Appendix B, considering an environmental problem serious generally translates into the desire for further knowledge about the environment. This was true for 16 of the 19 problems asked about. There is a positive relationship between these two variables. Thus we find support for the hypothesis that considering an environmental problem "serious" leads to the desire for further knowledge.

A related hypothesis, that the desire for further knowledge of various environmental issues would lead to greater overall environmental knowledge, as shown in Appendix B, does not prove true. While there is a positive relationship between these two variables for 10 of the 19 issues, in no case is the relationship statistically significant. In other words, the hypothesis is not supported by this cross-sectional data.

Issues Would Like to Know More About [Q.12]


Point Difference from Non-disadvantaged Students
Damage to the ozone layer 31% +2
Destruction of the rainforest 30 -4
Global warming 23 -1
Endangered animals, plants, insects 23 -5
Acid rain 21 +5
Destruction or filling in of wetlands 18 -2
Air pollution or smog 17 +1
Polluted ocean waters and unsafe beaches 16 -3
Lead poisoning from water, old paint, etc. 15 +4
Pollution of lakes, rivers, streams 14 -1
Not enough energy 14 0
Shortages of good drinking water 13 +1
Pollution from toxic or hazardous dump sites 13 0
Pollution of water from fertilizers and pesticides used in farming 11 +2
Too little recycling 11 -1
Not enough open areas 11 -2
Damage to the environment caused by mining or cutting down trees 9 -1
Not enough landfill space for garbage and trash 8 0
Littering of trash and garbage 6 -1

Interest in learning more about these issues varies little by gender or region among students from disadvantaged areas.

Among students from both disadvantaged and non-disadvantaged areas, there are several issues where interest in learning more far exceeds current knowledge, as well as issues for which current knowledge far exceeds the desire to learn more. Some of these issues may be considered "mature issues," meaning youth and the public as a whole have had the opportunity to become accustomed to them. Mature issues include recycling, litter and air pollution, where the differences between current and desired knowledge indicate that students feel they know enough already, and relatively few want to learn more (thus the "+" in the "Difference" in the adjoining table). For "emerging issues," including global warming, acid rain and destruction of wetlands, the differences indicate that students want to know more than they know now (thus the "-" in the "Difference" column in the adjoining table). These are clearly issues for educators and policymakers to focus on when planning environmental education programs for young people today.

A few issues are high in terms of both current knowledge and interest in knowing more. These include: endangered plants, animals and insects; damage to the ozone layer; and destruction of the rainforest. These may also be issues future efforts should address.

Issues Future Efforts Should Focus On, Among Students from Disadvantaged Areas

(the difference between issues students from disadvantaged areas know most about and those issues they want to learn more about)

	Know Most About	Know More About	Difference
	%	%	%
Too little recycling	30	11	+19
Littering of trash and garbage	22	6	+16
Air pollution or smog	31	17	+14
Pollution of lakes, rivers, streams	18	14	+4
Shortages of good drinking water	16	13	+3
Not enough landfill space for garbage	10	8	+2
Endangered animals, plants, insects	25	23	+2
Polluted ocean waters and unsafe beaches	16	16	0
Damage to the environment caused by mining or cutting down trees	8	9	-1
Not enough open areas	9	11	-2
Not enough energy	10	14	-4
Pollution of water from fertilizers and pesticides used in farming	5	11	-6
Lead poisoning from water, old paint, etc.	9	15	-6
Pollution from toxic/hazardous dump sites	6	13	-7
Damage to the ozone layer	24	31	-7
Destruction of the rainforest	22	30	-8
Destruction or filling in of wetlands	7	18	-11
Acid rain	8	21	-13
Global warming	7	23	-16

- = desired knowledge exceeds current knowledge (issues to focus on)
+ = current knowledge exceeds desired knowledge

Issues Future Efforts Should Focus On, Among Students From Non-disadvantaged Areas

(the difference between issues students from non-disadvantaged areas know most about and those issues they want to learn more about)

	Know Most About	Would Like to Know More About	Difference
	%	%	
Too little recycling	28	12	+16
Air pollution or smog	30	16	+14
Littering of trash and garbage	19	7	+12
Pollution of lakes, rivers, streams	18	15	+3
Not enough landfill space for garbage and trash	10	8	+2
Endangered animals, plants, insects	29	28	+1
Damage to the ozone layer	29	29	0
Destruction of the rainforest	33	34	-1
Not enough open areas	11	13	-2
Shortages of good drinking water	10	12	-2
Polluted ocean waters and unsafe beaches	16	19	-3
Damage to the environment caused by mining or cutting down trees	7	10	-3
Pollution of water from fertilizers and pesticides used in farming	4	9	-5
Lead poisoning from water, old paint, etc.	5	11	-6
Acid rain	8	16	-8
Not enough energy	5	14	-9
Pollution from toxic or hazardout dump sites	3	13	-10
Destruction of filling in of wetlands	7	20	-13
Global warming	10	24	-14

= desired knowledge exceeds current knowledge (issues to focus on)
+ = current knowledge exceeds desired knowledge

CHAPTER THREE: IMPACTS AND ACTIONS

CHAPTER THREE: IMPACTS AND ACTIONS

This chapter looks at how the environment impacts the lives of young people and what students are doing to help the natural world. For all students, whether from disadvantaged areas or not, education about the environment comes from more than just books and classrooms; they learn about and experience it in everyday life. As reported earlier, students from disadvantaged areas often have to deal with issues of greater immediacy to them than the environment. Consequently, they are less likely than students from non-disadvantaged areas to engage in environment-friendly activities such as recycling and picking up litter. On an encouraging note, however, students from disadvantaged areas are no more likely than students from non-disadvantaged areas to agree with several reasons for <u>not</u> doing more for the environment. Providing students with opportunities to address the issues which concern them most should help make young people more conscious of and friendly toward the environment.

A. Is the Grass Greener Elsewhere?

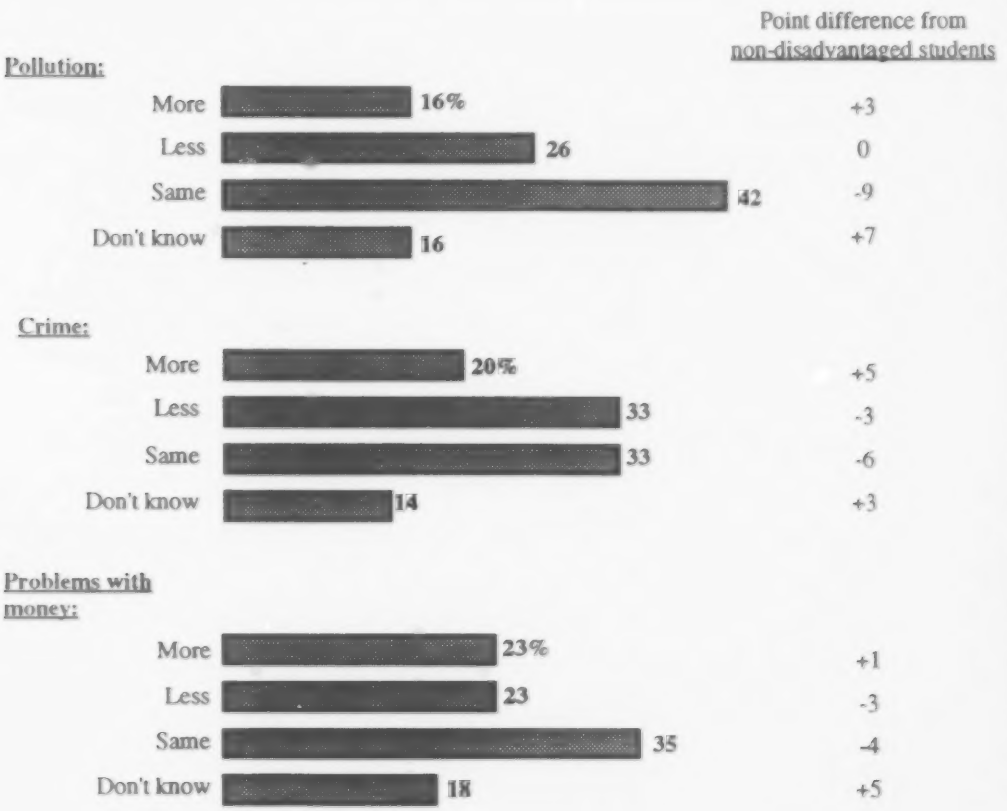
Young people were asked to indicate whether three issues, pollution, crime and problems with money, affect their own family more, less or about the same as most other people in this country.

While earlier in this report we saw that students from disadvantaged areas report higher levels of concern about a variety of local environmental problems, we find that students from disadvantaged areas are no more likely than non-disadvantaged students to feel pollution affects them more than other families. Just 16% of students from disadvantaged areas report that they and their family are affected more by pollution than other families, basically the same as students from non-disadvantaged areas (13%). One student in four (26% among both disadvantaged and non-

disadvantaged students) say pollution affects them less than others. This is consistent with many other surveys which have found that many people feel their experiences are the same as most other people.

The same pattern holds for money problems. Meanwhile, students from disadvantaged areas are somewhat more likely to feel that crime problems effect their families more than most people in the country.

Whether Problems Affect Own Family More, Less, or the Same As Most People in this Country [Q.2]



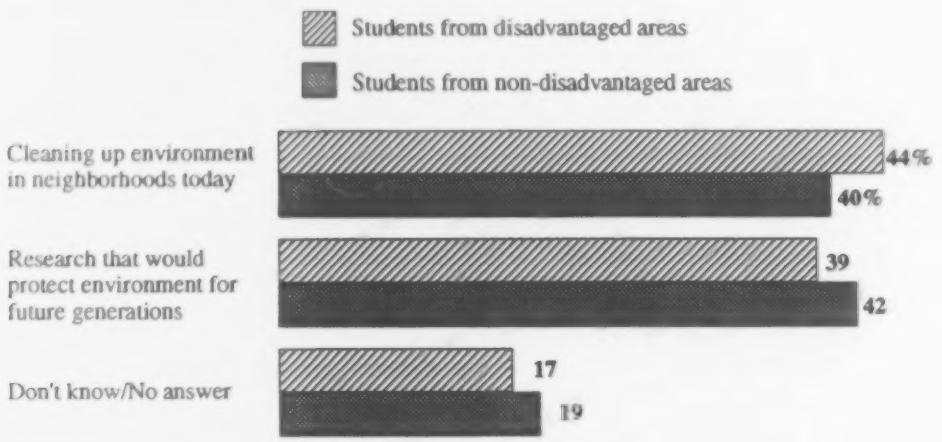
Belief that one's family is exposed to more pollution than most families seems to correlate with overall environmental knowledge and learning about the environment in school. Young people who say they know a lot about the environment tend to be more aware of pollution affecting their family than those who know only a little or practically nothing of the subject. This is true among both students from disadvantaged areas (28% among those who know "a lot", 13% among those who know "only a little/practically nothing") and students from non-disadvantaged areas (16% among those who know "a lot" versus 10% among those who know "only a little/practically nothing"). Likewise, students who say they learn "a lot" about the environment in school tend to be more likely to think pollution affects their family than those who report learning "only a little/ practically nothing" about the environment in school.

B. A Million Dollar Decision

The choice: the here and now or the future. Earlier, we saw a marked difference in the concerns and reasons for protecting the environment among students from disadvantaged areas (focused more on the here and now), compared to students from non-disadvantaged areas (focused more on the future). But if they were making policy, which would young people choose as the destination for one million dollars of government money to help the environment? The answer is not quite as clear. Not surprisingly, then, students from disadvantaged areas say that cleaning up neighborhoods today (44%) is a better use of one million dollars than research to protect the environment in the future (39%) — a 5 point spread. Students from non-disadvantaged areas lean slightly in the opposite direction, with a 2 point spread favoring research to protect the environment in the future (42%) over cleaning up neighborhoods today (40%).

A Million Dollar Decision [Q.16]

(where students would prefer to spend $1 million of government money to help the environment)



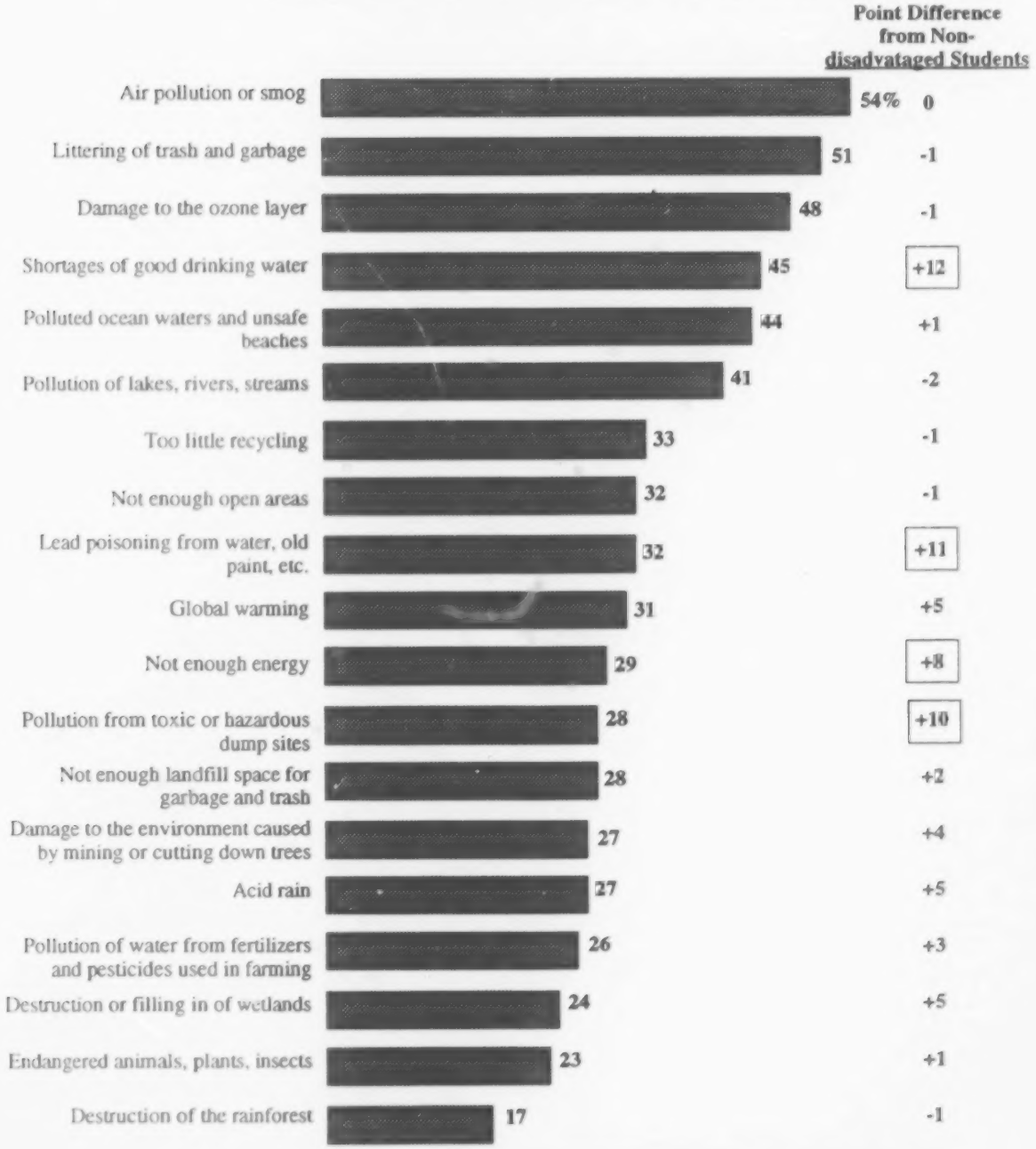
In the data for both disadvantaged and non-disadvantaged students, gender is the only demographic variable that figures into a young person's response to this question. Recalling that girls seem to know more about environmental issues focused on the here and now than boys (Chapter Two; Section D), it is no surprise that among students from disadvantaged areas, 48% of girls compared to 40% of boys would opt for spending a million dollars to clean up neighborhoods today. Among non-disadvantaged students, the difference is 43% to 36% in favor of girls. On the other hand, 44% of boys from disadvantaged areas would prefer research that would protect the environment for future generations, compared to 34% of girls. The difference among students from non-disadvantaged areas in favor of boys over girls on this count is 46% to 38%.

C. Key Differences In Everyday Environmental Concerns

Consistent with the perspective of disadvantaged students that their families are no more affected by pollution than non-disadvantaged students, the issues that most affect young people everyday are similar among students from disadvantaged areas and students from non-disadvantaged areas: air pollution, littering of trash and garbage and damage to the ozone layer are the three problems most often named both groups as affecting their everyday life. Pollution of lakes, rivers, streams and polluted ocean waters and unsafe beaches are other problems on the list of 19 issues developed in the focus groups young people say affect them every day.

But, there are four exceptions to the similarity between students from disadvantaged areas and students from non-disadvantaged areas, which are consistent with the local versus global perspectives of the two groups of young people: shortages of good drinking water, lead poisoning, not enough energy and pollution from hazardous or toxic dump sites, all of which are significantly higher (8 to 12 points) among students from disadvantaged areas and were the issues considered "most serious" by students from disadvantaged areas.

Environmental Issues Affecting Everyday Life [Q.10]



As might be expected, urbanicity appears to be a factor in the perception of various environmental problems affecting everyday life. However, the trends among students from disadvantaged areas are the antithesis of those among students from non-disadvantaged areas. In general, disadvantaged students from urban areas are more likely than those from rural areas to feel that various environmental problems affect them everyday. Air pollution is one example, as 57% of urban disadvantaged students report this affects them everyday, compared to 48% of rural disadvantaged students. This pattern holds true for shortages of good drinking water (49% vs. 39%), polluted ocean waters (48% vs. 36%), lead poisoning (35% vs. 26%), global warming (35% vs. 25%) and not enough energy (32% vs. 24%). Only littering of trash and garbage is an exception, which more rural disadvantaged students (57%) than urban disadvantaged students (47%) say affects them every day.

The opposite pattern appears among students from non-disadvantaged areas, as larger percentages of rural rather than urban students cite these problems as affecting their everyday life. These include too little recycling (38% rural vs. 30% urban), not enough landfill space (31% vs. 23%), pollution of water from fertilizers (28% vs. 20%), damage to the environment caused by mining (29% vs. 18%) endangered plants and animals (30% vs. 16%), acid rain (27% vs. 19%), not enough energy (25% vs. 16%), pollution from toxic sites (26% vs. 16%) and destruction of the rainforest (22% vs. 14%).

Grade is another key to the data for everyday concerns, as concern earlier was correlated with learning about the environment. Students in grades 4 and 5, whether disadvantaged or non-disadvantaged, are the most likely to feel that the majority of the problems personally affect them in everyday life. Alternately, in 15 of the 19 cases, students in grades 11 and 12, regardless of disadvantaged/non-disadvantaged status, are the least likely to state that each problem affects them personally. This is perhaps because they pay less attention to the environment, experience having made it less of an "unknown" and mysterious entity. Or, perhaps, maybe they have come to accept environmental problems as a given and do not particularly think about them as having an effect. Or, perhaps they are in fact less educated than their younger peers and therefore legitimately less aware.

D. Suspicions of a Lack of Good Drinking Water

From the preliminary data in the nationwide cross-section, it was apparent that drinking water was an issue of concern to youth from disadvantaged areas. To this end, students from disadvantaged areas in this third phase of research were asked the following question: "Do you have any reason to believe that you don't have enough good drinking water or that you didn't have enough good drinking water in the past?" Nearly half of these young people — 44% — respond in the affirmative, that they have suspicions about the quantity and/or quality of their supply of drinking water. (This question was not asked of youth from non-disadvantaged areas.) This is consistent with the data in the preceding section regarding issues of everyday concern as seen in the results for shortages of good drinking water and lead poisoning from water, both higher among students from disadvantaged rather than non-disadvantaged areas.

Suspicions and Reasons for Believing That There Is Not Enough Good Drinking Water Locally [Q.17/18]

	Students in Disadvantaged Areas
Yes	**44%**
The taste of the water	71%
The look of the water	58
Saw it on TV news/Nature program	55
The smell of the water	40
Learned about it in school	36
Read about it in the newspaper	34
Adults in my house told me so	31
Turned on the tap and no water came out	19
Heard about it on the radio	19
No	**34**
Not sure	**22**

Younger students, the most likely to report experiencing everyday shortages of good drinking water, are also among the most likely to report suspicions of a lack of good drinking water. Thus, whereas 47% of disadvantaged students in grades 4 and 5 and 6 through 8 express such suspicions, the figure drops to 40% in grades 9 and 10 and 38% in grades 11 and 12.

By region, those in the Midwest (53%) and Northeast (50%) show higher levels of concern about their water than disadvantaged youth in the South (41%) and West (38%).

The racial or ethnic background of students from disadvantaged areas is also a key element, as 51% Hispanic students from disadvantaged areas and 49% of blacks are the most likely to say they have had problems with their drinking water, compared to only 32% among white students from disadvantaged areas.

Also, students who report knowing a lot about the environment in general are considerably more likely to believe they do not or did not have enough good drinking water in the past than those who know only a little/ practically nothing about the environment in general (55% vs. 39%).

What do students tell us is the basis for their suspicions? The taste (71%) and the look (58%) and the smell (40%) of the water are among the chief reasons for the lack of good drinking water.

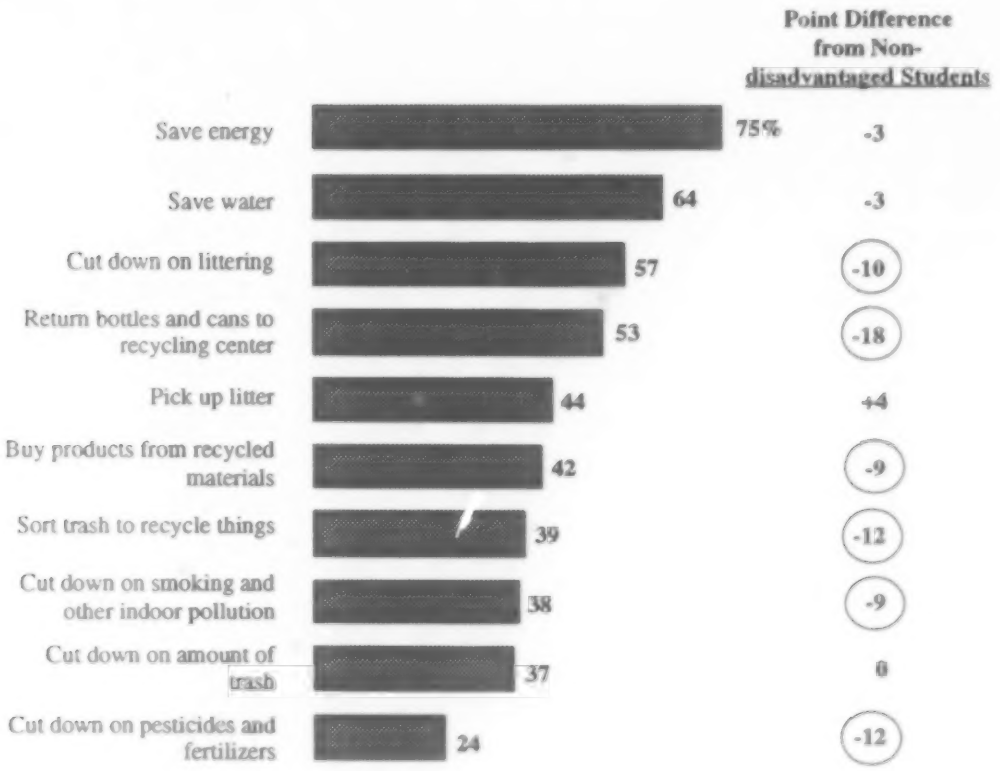
Beyond first hand experience, 55% say they learned about problems with their water supply through a TV news or nature program. Smaller numbers say they learned about this problem in school (36%), read about it in the newspaper (34%) or were told by an adult about the situation (31%).

E. The Home and Environmental Action

There are many actions and behaviors that individuals can undertake to help the environment, from shutting off lights when leaving rooms to recycling soda bottles and cans. Yet not all students are equally involved in practicing environment-friendly activities at home. In fact, students from disadvantaged areas are significantly less likely than students from non-disadvantaged areas to engage in 6 of 10 listed activities, most notably those relating to litter and recycling. However, the top two behaviors — saving energy and saving water — are relatively equal for both groups of students. Taken together, these findings are consistent with higher concern about energy and water among students from disadvantaged areas, as well as this group's lower concern about recycling.

These and other differences in environment-friendly practices may in part be due to the different issues that disadvantaged and non-disadvantaged students consider serious. For example, shortages of good drinking water or acid rain, issues of greater concern to students from disadvantaged areas, are perhaps less easy to get involved in than recycling, one of the issues non-disadvantaged students consider serious. An action agenda that addresses the immediate and localized concerns of disadvantaged students might spur greater action on the part of these students.

Things Families and Individuals Make a Real Effort to Do to Help the Environment [Q.21]



Gender is a key factor in five of the top six environment-friendly behaviors. Among students from disadvantaged areas, more girls than boys say they and their family try to save energy (79% vs. 71%), try to save water (69% vs. 57%), cut down on littering (62% vs. 52%), pick up litter (47% vs. 41%) and buy recycled products (45% vs. 38%). Among students from non-disadvantaged areas, girls score higher than boys on the same items, with the addition of cutting down on indoor pollution.

The youngest children (and their families) are the most environmentally active group. They lead the way for buying recycled products (50% of those in grades 4 and 5 vs. 42% overall), cutting down on indoor pollution (46% vs. 38% overall) and picking up trash in the neighborhood (60% vs. 44% overall). This is consistent with the generally higher levels of concern and interest in the environment expressed by younger students throughout this study.

Examining the data by region, two cases stand out among students from disadvantaged areas: returning soda and beer bottles and cans to recycling centers is far higher in the West (70%) than it is elsewhere (Northeast, 55%; Midwest, 52%; South, 48%). Sorting trash for recyclables is higher on the two coasts (Northeast, 52%; West, 50%) than it is in the Midwest (38%) or the South (32%). These data reflect findings of other Roper surveys among adults, which find greater degrees of environmental activity among people living in the Northeast and West, and the lowest levels of activity among Southerners.

Knowledge about the environment correlates with action. Disadvantaged students who say they generally know a lot about the environment seem to buy more recycled or reusable products than disadvantaged students who report knowing only a little or practically nothing about the environment. The gap between the two groups is 24 percentage points, 57% to 33%. (An even wider gap in buying recycled or reusable products occurs among students from non-disadvantaged areas: 69% among those who know a lot and 35% among those who know only a little/practically nothing.) In fact, this trend holds true for each of the issues, with those who say they know a lot about the environment being an average of 14 percentage points higher in their practice of these environment-friendly activities. Among students from non-disadvantaged areas, the average gap is 18 percentage points.

Learning about the environment in school also correlates with action. Students from disadvantaged areas who report learning a lot about the environment in school are an average of 12 percentage points higher than those who say they are learning only a little/practically nothing. The largest gaps are for cutting down on trash and garbage (53% vs. 30%) and picking up litter or trash in the neighborhood (60% vs. 39%). Among students from non-disadvantaged areas, the average gap is 16 percentage points.

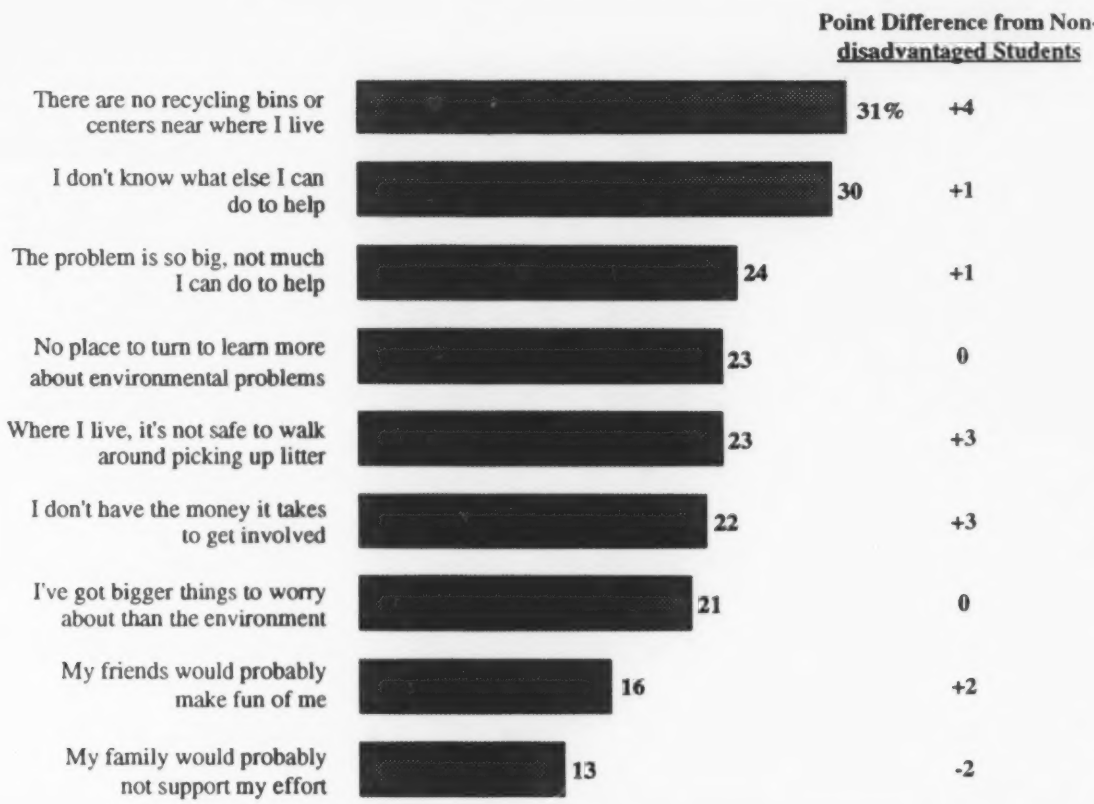
Things Done to Help the Environment, by General Environmental Knowledge and Learning in School [Q.21]

	General Knowledge About Environment				Learning in School About Environment			
	Students from Disadvantaged Areas		Students from Non-disadvantaged Areas		Students from Disadvantaged Areas		Students from Non-disadvantaged Areas	
	A lot	Nothing	A lot	Nothing	A lot	Nothing	A lot	Nothing
	%	%	%	%	%	%	%	%
Save energy (turn off lights when you leave a room)	83	71	83	74	80	74	86	77
Save water (don't waste water, or turn it off when brushing teeth)	72	58	75	58	74	61	77	64
Cut down on littering	66	51	72	63	62	57	74	65
Return soda or beer bottles or cans to a store or recycling center	61	48	79	63	63	51	77	70
Pick up litter or trash in your neighborhood or area	52	41	50	35	60	39	46	36
Buy products made from recycled paper, or products that can be refilled or reused	57	33	69	35	52	40	56	46
Sort trash to recycle things, like newspapers, cans, glass jars, plastic containers, etc.	51	33	60	45	44	36	62	48
Cut down on smoking and other things that cause indoor air pollution in your house	42	35	59	40	48	36	74	42
Cut down on the amount of garbage and trash you make	47	32	53	27	53	30	69	31
Cut down on pesticides and fertilizers used for yards, trees, gardens, crops, etc.	33	18	50	26	31	22	49	36

F. Causes of Environmental Inaction

Whereas the previous section discussed the various things young people are actively doing to help the environment, a separate question asked young people to say whether there are various reasons they are not currently doing more about the environment. Despite the gaps between students from disadvantaged areas and students from non-disadvantaged areas on things actively done to benefit the environment, there are no differences between these two groups with regard to possible reasons for not doing more for the environment. Less than a third of either group of young people agree with any of the nine potential responses.

Reasons For Not Doing More For the Environment [Q.22]


Point Difference from Non-disadvantaged Students
There are no recycling bins or centers near where I live
31%
+4
I don't know what else I can do to help
30
+1
The problem is so big, not much I can do to help
24
+1
No place to turn to learn more about environmental problems
23
0
Where I live, it's not safe to walk around picking up litter
23
+3
I don't have the money it takes to get involved
22
+3
I've got bigger things to worry about than the environment
21
0
My friends would probably make fun of me
16
+2
My family would probably not support my effort
13
-2

CHAPTER FOUR: MOTIVATION

CHAPTER FOUR: MOTIVATION

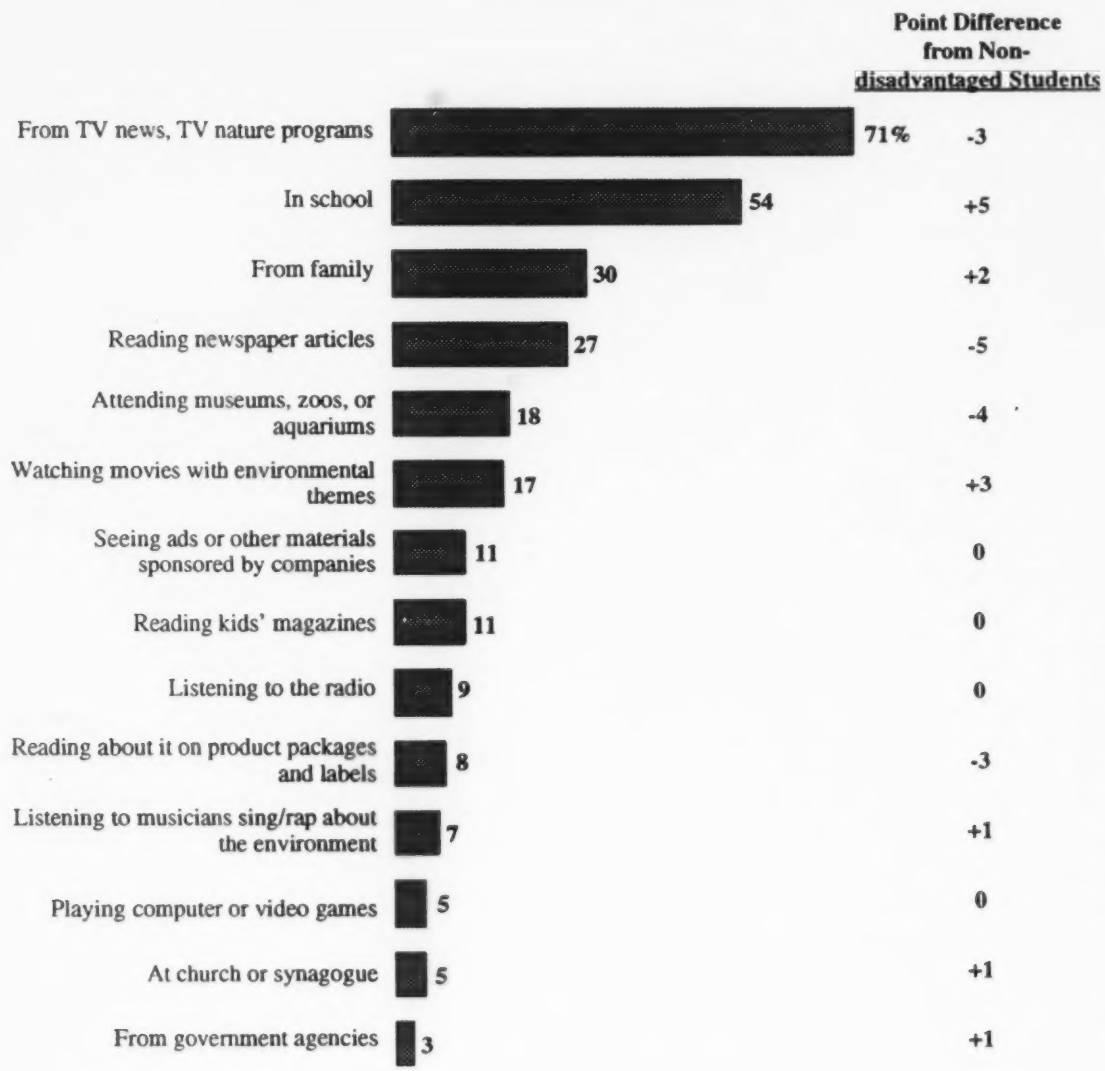
The diverse backgrounds of young people today are reflected in their perceptions of environmental problems, their knowledge of environmental issues and their experiences with the environment in everyday life. This chapter looks at the sources available for environmental information, young people's interest and participation in environmental groups, and how students can be better motivated to help the environment. Keeping students interested in the environment, creating new opportunities for involvement and providing students with the information they desire will be key to keeping the natural environment healthy.

A. Sources of Environmental Information

There are many sources today's students use for guidance and information. But of a list of 14 possible sources of information about environmental problems and issues, one stands out: television. Over seven in ten students from disadvantaged and non-disadvantaged areas say they learn about the environment from TV news and TV nature programs.

School is the second most likely source of information for students from both disadvantaged (54%) and non-disadvantaged (49%) areas. Other items are turned to at much lower levels.

Sources Used to Learn About Environmental Problems and Issues [Q.29]



Grade is an important influence on sources of environmental information, with some items increasing in usage by grade while others decrease by grade. Television as a source of environmental information increases with grade level among students from disadvantaged areas (from 53% in grades 4-5 to 85% in grades 11-12), as does the reading of newspapers (from 15% in grades 4-5 to 37% in grades 11-12). Ads sponsored by companies also increases as a source of information as students from disadvantaged areas get older, as does reading environmental information on product packages and labels. At the same time, school, family and the reading of magazines decrease as sources of information with grade level of youth from disadvantaged areas.

The trends among students from disadvantaged areas are more pronounced than they are for students from non-disadvantaged areas. For example, though "television" is again lowest in grades 4 and 5 (56%) for youth from non-disadvantaged areas, it is the same for all of the other grades (about 80%), while "in school" is flat, at 48% for grades 4-5 and 45% for grades 11-12. The lower "in school" figure among students from non-disadvantaged areas supports the earlier finding that those young people report learning less about the environment in school than students from disadvantaged areas.

Sources Used to Learn About Environmental Problems and Issues, By Grade, Among Students from Disadvantaged Areas [Q.29]

(only students from disavantaged areas are shown)

	Total	4th-5th	6th-8th	9th-10th	11th-12th
	%	%	%	%	%
From TV news, TV nature programs	71	53	70	82	85
In school	54	61	57	51	46
From family	30	46	31	20	18
Reading newspaper articles	27	15	25	32	37
Attending museums, zoos, or aquariums	18	19	21	15	15
Watching movies with environmental themes	17	14	15	19	20
Reading kids' magazines	11	20	14	6	3
Seeing ads or other materials sponsored by companies	11	4	8	12	20
Listening to the radio	9	9	9	8	10
Reading about it on product packages and labels	8	4	7	11	12
Listening to musicians sing/rap about the environment	7	12	7	4	4
Playing computer or video games	5	10	5	3	2
At church or synagogue	5	8	4	2	3
From government agencies	3	3	2	4	4

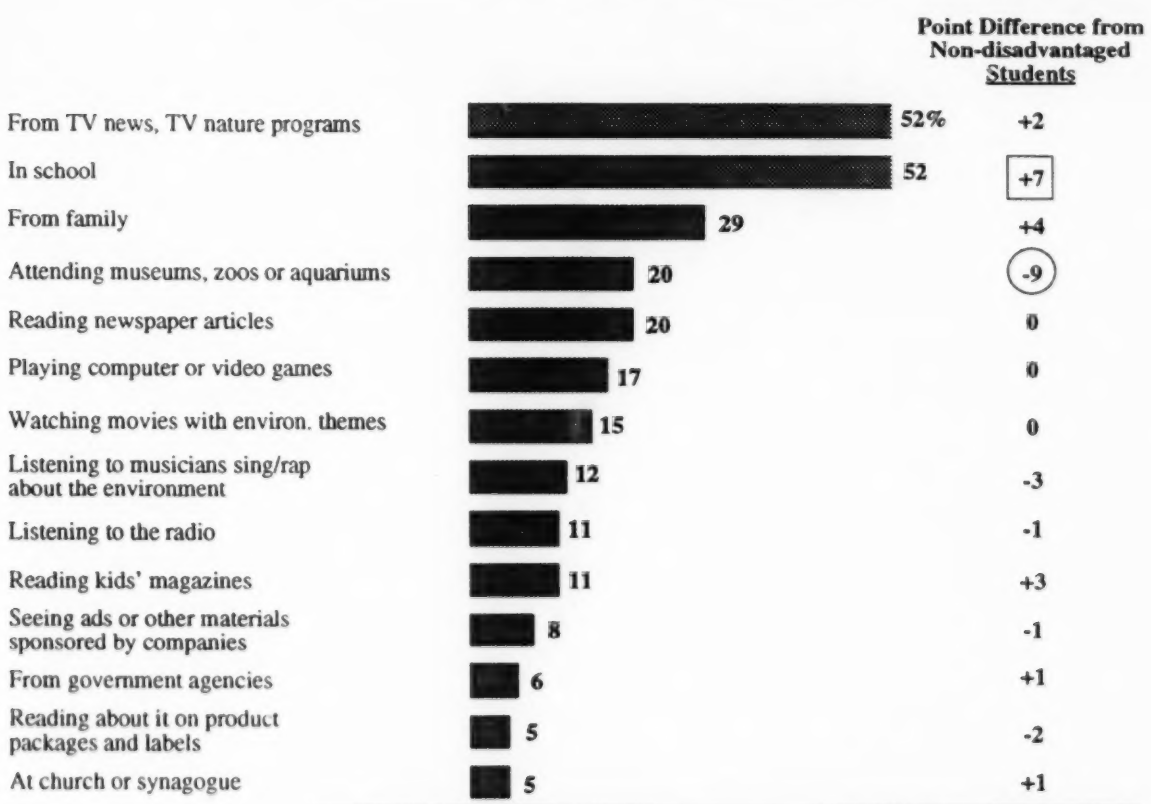
Among students from disadvantaged areas, those in urban locales are more likely than those in rural regions to report school as a source of environmental information, 57% to 49%. (Earlier, these two groups of disadvantaged students were similar in the amount of environmental information they feel they are learning in school.) The same is true for attending museums: 20% among urban students and 14% among rural students from disadvantaged areas, no doubt because urban areas have more museuems, zoos and aquariums. Learning about the environment via the newspaper is higher in rural areas, by a 31% to 24% margin. Interestingly, among students from non-disadvantaged areas, reading newspaper articles in the only method that differes among urban and rural students, this time higher in urban areas (38%) than in rural locations (25%).

Several of the sources used vary by the amount of self-reported environmental knowledge a young person from a disadvantaged areas possesses. Four items are more frequented by students who say they know a lot about the environment: school (57%, vs. 51% of those who know only a little/practically nothing); family (37% vs. 26%); museums and zoos (24% vs. 17%); and environmental movies (23% vs. 14%). Two other items are more frequented by those who say they know only a little /practically nothing about the environment: television (72% vs. 65%) and ads or materials from companies (13% vs. 7%), sources that are less experiential than those frequented by those who know a lot about the environment in general.

B. Preferred Sources of Environmental Information

The top two sources currently used to obtain information on the environment are also the two leading preferred sources of this information. But this time, television and school are tied. The methods preferred by students from disadvantaged areas and those preferred by students from non-disadvantaged areas are generally similar, although disadvantaged students are significantly more likely than non-disadvantaged students to say they would prefer to learn more about the environment in school — 52% versus 45%; alternately, attending museums and zoos is far more preferred by students from non-disadvantaged areas than those from disadvantaged areas (29% vs. 20%).

Preferred Ways of Learning More About the Environment [Q.30]



As with the sources currently used, television as a preferred source of environmental information among students from disadvantaged areas increases with grade: about six in 10 students in grades 9 and 10 and grades 11 and 12 opt for this source, compared to half of those in grades 6, 7 ,8, and four in 10 fourth and fifth graders. And again, learning in school and talking to the family move in opposite direction. School as a preferred source is highest among disadvantaged youth in grades 4 and 5 and lowest in grades 11 and 12, as is talking to the family. (Earlier, 4th and 5th grade students placed greater stock in their parents' environmental knowledge than did 11th and 12th grade students.) By comparison, school as a preferred source for learning about the environment does not change by grade among students from non-disadvantaged areas, though the reading of newspapers as a preferred source increases significantly by grad. Television and the family follow the same trends seen among disadvantaged students.

Preferred Ways of Learning More About the Environment, By Grade [Q.30]

(only students from disadvantaged areas are shown)

	Total	4th-5th	6th-8th	9th-10th	11th-12th
	%	%	%	%	%
Watching TV news, TV nature programs, etc.	52	41	51	60	59
Learning about it in school	52	60	50	50	47
Talking to your family	29	48	31	20	15
Reading newspaper articles	20	18	19	20	25
Attending museums, zoos or aquariums	20	17	24	18	19
Playing computer or video games	17	21	20	17	10
Watching movies with environmental themes	15	15	13	18	17
Listening to musicians sing/rap about the environment	12	13	12	11	10
Reading kids' magazines	11	20	13	8	3
Listening to the radio	11	10	11	9	12
Seeing ads or other materials sponsored by companies	8	3	6	10	13
Government agencies	6	5	5	5	11
Reading about it on product packages and labels	5	1	4	7	8
Learning at church or synagogue	5	9	3	4	3

Gender generally plays little importance in preferences for sources of environmental information. The only exceptions are school, which girls from disadvantaged areas prefer more than boys (55% to 49%) and computer or video games, preferred by boys, 22% to 14%. Among students from non-disadvantaged areas, these two items also are the only ones to show a gender difference.

Two potential sources that students from disadvantaged areas would like to use more than they currently do are playing computer games (17% would like to, just 5% do) and listening to musicians sing or rap about the environment (12% would like to, 7% do). At the same time, however, television and newspapers decline between the "used" and "preferred" status of these possible sources of environmental information among students from disadvantaged areas. School is "in balance" as virtually equal numbers of students from disadvantaged areas cite it as a used and preferred source.

Among students from non-disadvantaged areas, the same patterns are visible, with the addition of "attending museums, zoos" as a source more often preferred than currently used.

Best Sources for Reaching Students From Disadvantaged Areas

(the difference between the sources students from disadvantaged areas use for information about the environment and the sources they would prefer to use)

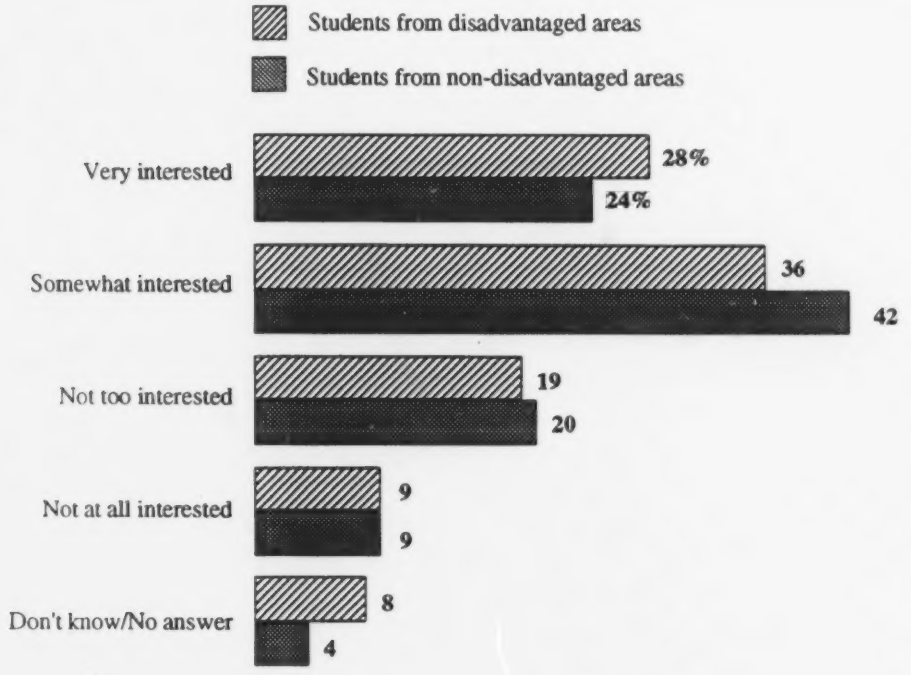
	Sources Used	Sources Preferred	Difference
	%	%	
Playing computer or video games	5	17	-12
Listening to musicians sing/rap about the environment	7	12	-5
Government agencies	3	6	-3
Attending museums, zoos or aquariums	18	20	-2
Listening to the radio	9	11	-2
At church or synagogue	5	5	0
Reading kids' magazines	11	11	0
Talking to your family	30	29	+1
Watching movies with environmental themes	17	15	+2
Learning about it in school	54	52	+2
Seeing ads or other materials sponsored by companies	11	8	+3
Reading about it on product packages and labels	8	5	+3
Reading newspaper articles	27	20	+7
Watching TV news, TV nature programs, etc.	71	52	+19

- = underused sources to reach students
+ = sources used already

C. Interest in Working for the Environment

Perhaps sparked by exposure to sources of environmental information and continuing the trend seen throughout this report, young people today show a healthy interest in working to help do things for the environment, often despite other concerns in their lives. Most encouraging is the fact that about two-thirds of students, whether from disadvantaged areas or not and despite other problems that may be in their lives, say they would be either very or somewhat interested in working with others or joining a group or club to benefit the environment.

Interest in Working With Others or Joining a Club to Help the Environment [Q.28]



There are some striking differences among demographic subgroups. Again, following trends seen elsewhere, girls from disadvantaged areas are far more interested than boys in working with others to help the environment. Likewise, overall interest in working with others for the environment decreases from 74% among fourth and fifth graders from disadvantaged areas (47% of whom are "very interested") to 58% among ninth and tenth graders (just 17% are "very interested").

Summary Table: Interest in Working With Others or Joining a Club to Help the Environment

(top two boxes combined, very and somewhat interested)

	Students from Disadvantaged Areas	Students from Non-disadvantaged Areas
	%	%
Total	64	66
Boys	57	56
Girls	70	77
4th-5th	74	71
6th-8th	59	70
9th-10th	58	67
11th-12th	63	55
Urban	62	58
Rural	67	73
White	64	69
Black	65	59
Hispanic	65	67
Northwest	54	68
Midwest	64	56
South	66	72
West	63	70

Whether a young person lives in an urban or rural location does not significantly affect interest in involvement among students from disadvantaged areas, with 62% of urban disadvantaged students and 67% of rural disadvantaged youth reporting they are either very or somewhat interested in working for the environment. This is in contrast to the findings of students from non-disadvantaged areas, where urban/rural status does have an impact. Nearly three quarters of non-disadvantaged youth in rural areas (73%) are very or somewhat interested in working for the environment, compared to 58% of urban non-disadvantaged students. These results are in-line with an earlier correlation between urbanicity and the desire to have an impact on the environment, as urban and rural disadvantaged students were similar in placing a priority on helping the environment (21% and 26% respectively), where rural non-disadvantaged students were markedly higher than urban students from non-disadvantaged areas (38% vs. 28%) in wanting to have an impact on the environment.

Not surprisingly, knowledge about the environment in general is highly correlated with interest in joining a group or working with others to benefit the environment. Fully 78% of students from disadvantaged areas who know a lot about the environment are at least somewhat interested in helping the environment, compared to 53% of those who say they know only a little or practically nothing about the environment. This is similar to the results among students from non-disadvantaged areas.

The correlation above is supported by the path analysis. We hypothesize that interest in involvement in environmental groups would lead to involvement in environmental groups both at school and in the community. The path analysis shows that this is indeed the case, as the results between these data elements are statistically significant. Increasing interest in environment groups ought to lead to increased participation in environmental groups, the final step of the path analysis paradigm leading from environmental knowledge to environmental action.

With regard to learning about the environment in school, the same correlation applies: 79% of disadvantaged students who say they are learning a lot about the environment in class would be interested in such work, compared to 59% of those learning only a little or practically nothing about the environment in class. Among students from non-disadvantaged areas, the results are comparable.

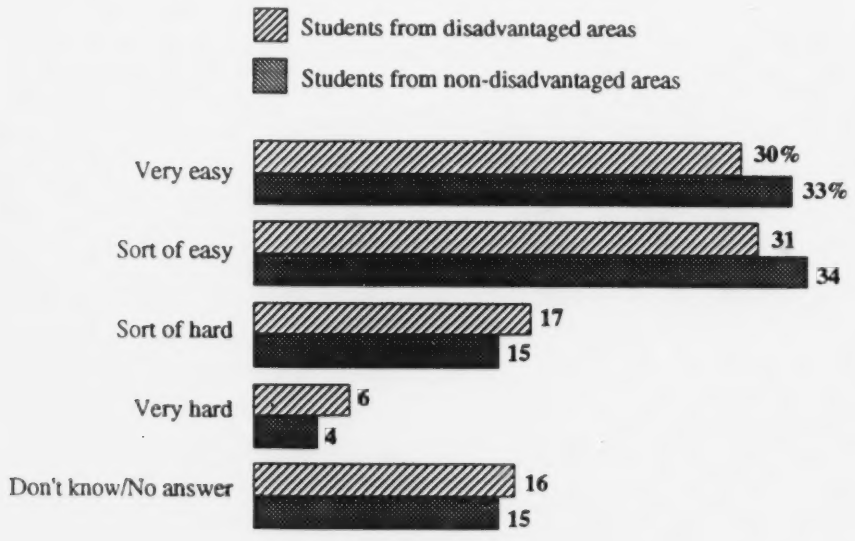
Interest in Working With Others or Joining a Club to Help the Environment, by General Environmental Knowledge and Learning in School [Q.28]

	General Knowledge about Environment				Learning in School about Environment			
	Students from Disadvantaged Areas		Students from Non-disadvantaged Areas		Students from Disadvantaged Areas		Students from Non-disadvantaged Areas	
	A lot	Little/ Nothing	A lot	Little/ Nothing	A lot	Little/ Nothing	A lot	Little/ Nothing
	%	%	%	%	%	%	%	%
Very interested	49	19	47	15	50	22	50	22
Somewhat interested	29	34	35	42	29	37	31	43
Not too interested	12	23	9	26	10	22	10	23
Not at all interested	6	14	7	14	3	13	7	10
Don't know/No answer	4	9	2	4	9	6	2	3

D. Ease of Getting Involved in Helping the Environment

Interest in doing something does not mean there exists the opportunity to do so. However, when it comes to young people today, their interest and perceived ease of getting involved in helping to do things for the environment are similar. Just as 64% of students from disadvantaged areas and 66% of non-disadvantaged students say they are either very or somewhat interested in working with others for a better environment, 61% of the former and 67% of the latter report that it would be either very easy or sort of easy for them to get involved in doing things for the environment.

Ease of Getting Involved in Helping the Environment [Q.23]



By region, ease of involvement among students from disadvantaged areas is highest in the West (65% very/sort of easy) and lowest in the Northeast (54% very/sort of easy). Ease of involvement is similar across the country among students from non-disadvantaged areas (between 65% and 69%).

Perceived ease of getting involved correlates with interest in the environment. For example, fully 53% of students from disadvantaged areas who are "very interested" in doing something to help the environment say it would be very easy to do things for the environment while just 4% of this group say it would be very hard for them to get involved. By comparison, 20% of disadvantaged students who say they are "not at all interested" in the environment feel it would be very easy to get involved while 19% of this group report that involvement would be very hard for them personally.

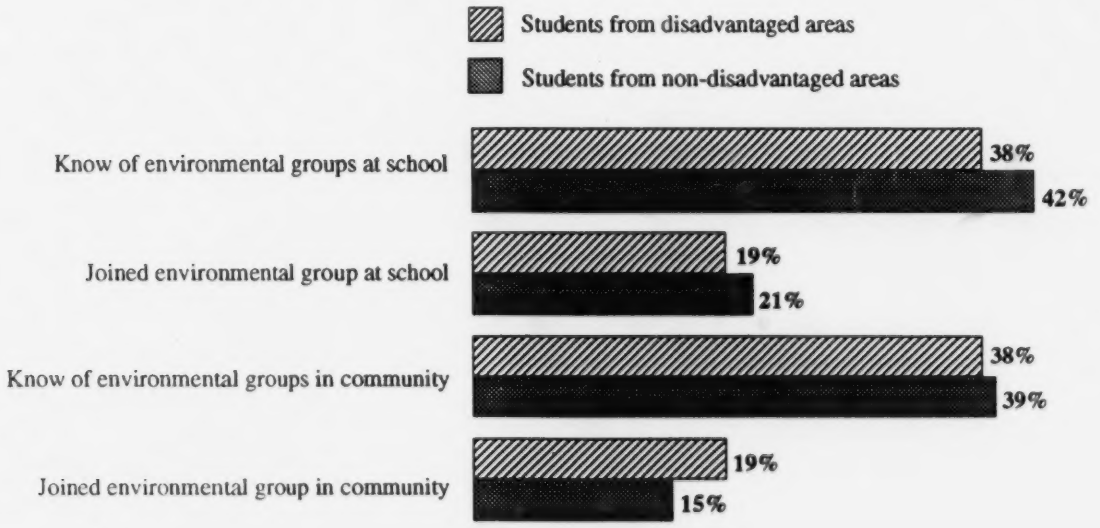
In the previous section, the path analysis indicated that interest in joining environmental groups leads to actual involvement in such groups. To fill out that picture, the path analysis looked further into this relationship, introducing a third variable, ease of involvement in environmental groups. As might be expected, students who experience few barriers to involvement in groups at school or in the community are somewhat more likely to join such groups than students who experience many barriers to involvement in groups at school or in the community. Yet, a statistically significant number of those who are interested in joining environmental groups and experience a high level of barriers still get involved, indicating that increasing interest in environmental groups, more so than removing obstacles to involvement, that may spur greater participation in environmental groups.

E. Participation in Groups that Work for the Environment

Despite the high levels of interest in joining a group or club to work for the environment, many young people are not yet participating. About four students in 10 say they know of environmental groups or clubs at their school or in their community where they can volunteer to help the environment. As for actual participation, two in 10 report that they have joined groups or clubs that actively work at improving the environment.

Alternately, these results indicate that about half of those who are aware of school-based or community-based clubs or programs are involved. Thus, if availability of programs or awareness of existing programs is increased, participation should follow, as interest in and willingness to join such groups has already been shown to be high.

Knowledge of and Current Participation in Environment-Related Activities [Q.24-27]

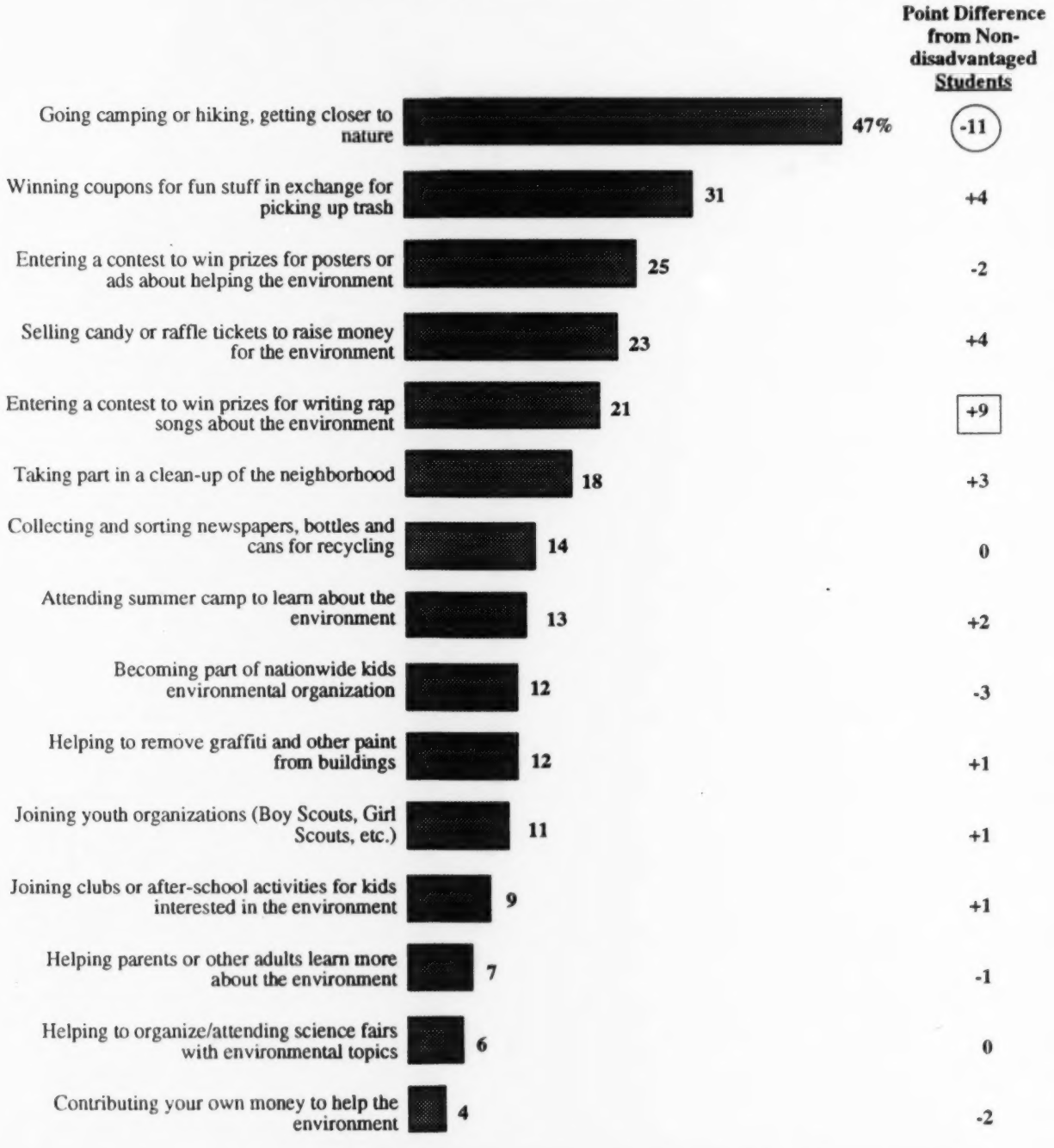


F. Engendering Interest in the Environment

Knowing that interest and ease of involvement are high, what are the most promising activities that would encourage young people to become interested in the environment? When young people are presented with a list of fifteen possible activities that might increase interest in environmental issues, a list generated in the focus groups in the first phase of this project, "going camping or hiking, or spending more time closer to nature" is the most popular by far with both disadvantaged and non-disadvantaged students. However, there is greater interest among non-disadvantaged students, making it one of only two items that differ significantly between disadvantaged and non-disadvantaged youth. The other item, "entering a contest to win prizes for writing rap songs about the environment" is named by significantly greater percentages of students from disadvantaged areas (21%) than students from non-disadvantaged areas (12%).

Experiential, or hands-on, learning is an approach that is verified by the tremendous response to involvement with nature for non-disadvantaged and disadvantaged students.

Getting Young People Involved in Environmental Issues [Q.31]



Once again, younger students are often more enthusiastic than older ones, continuing the trend seen throughout this research. Interest in winning coupons for picking up trash decreases with grade, from 43% of students from disadvantaged areas in grades 4 and 5 to 22% in grades 11 and 12. Winning prizes for designing posters or ads about helping the environment is highest in grades 4 through 8 (28%), falling to 18% in grades 11 and 12. Getting involved in the environment by writing rap songs also declines in higher grades: 33% of fourth and fifth graders versus 11% of eleventh and twelfth graders say this would be a way to get them involved in environmental issues.

Among students from disadvantaged areas in particular, selling candy or raffle tickets is more popular among girls than boys (27% vs. 19%), as is becoming part of an environmental organization with kids all over the country (15% vs. 9%). Boys from disadvantaged areas show a greater predilection for contests with prizes for writing raps songs about the environment (27%) than do girls (16%). These trends are also evident among students from non-disadvantaged areas.

CONCLUSIONS AND IMPLICATIONS

CONCLUSIONS AND IMPLICATIONS

The environment figures prominently in the lives of many young people as they experience and learn more about it every day. The data in this report provide several directions that may prove fruitful in the quest to make students, both from disadvantaged and non-disadvantaged areas, more aware and more likely to engage in activities and behaviors which benefit the environment.

Overall, in a list of ten problems, young people rank their fears about harm to the environment second, behind only AIDS in terms of problems they want to make better. Yet not all students think of the subject in the same light. Students from non-disadvantaged areas worry about the environment to a greater degree than students from disadvantaged areas, who are more worried about the problems of people with guns and localized crime and violence.

Despite other, more pressing problems in their lives and in their communities, students from disadvantaged areas are nonetheless interested in and involved with the environment at levels which are about the same as those of students from non-disadvantaged areas.

Today's students express a fairly high degree of self-reported knowledge about environmental issues and problems: two-thirds of both disadvantaged and non-disadvantaged students say they know either "a lot" or "a fair amount" about the subject. One of the themes that continually arises in the data is that both overall knowledge and learning about the

environment in school correlate with greater concern in, interest and involvement with, the environment. We cannot draw conclusions about causality, but there clearly is a relationship which can and probably should be built upon, and environmental education in schools is a key ingredient. Creating environmental programs in schools and making a commitment to publicizing these programs is another key ingredient to increasing participation in the environment. Moreover, starting young people on environmental programs early in their schooling is another key, as the survey finds that interest and actual participation in groups working for the environment generally decreases with schooling.

There are, however, different issue priorities. Damage to the ozone layer, air pollution, pollution of lakes, streams, rivers, and ocean waters are common concerns. But students from disadvantaged areas worry far more about lead poisoning from water and paint, energy shortages, shortages of good drinking water and acid rain. They worry less than students from non-disadvantaged areas about the rainforest and too little recycling. The survey also finds that while health concerns motivate both students from disadvantaged areas and those from non-disadvantaged areas, students from disadvantaged areas worry more about problems which affect them locally, personally, and in the here and now. Students from non-disadvantaged areas worry more (relatively) about plants and animals, as well as the "future." The different perspectives should undoubtedly be recognized and addressed in educational programs targeted at students from disadvantaged areas. To become engaged, environmental education programs must recognize the different needs of students from disadvantaged and non-disadvantaged areas.

There is an interesting relationship between current and desired knowledge of the environment. When current knowledge about specific environmental issues is compared with desired knowledge, differences emerge among both students from disadvantaged areas and students from non-disadvantaged areas. Issues where current knowledge exceeds a desire to know more include recycling, litter and air pollution, issues that are perhaps "mature" as they have been at the environmental forefront for several years now. Other issues, such as global warming, destruction of wetlands and acid rain may be termed "emerging issues" as they have entered the public consciousness only in the last few years. These are issues which the desire to learn more exceeds current knowledge. It is these "emerging" issues," along with a few issues that score high on both current and desired knowledge (damage to the ozone layer, endangered species, destruction of the rainforest) that should perhaps be the focus when planning programs for educating young people about the environment, since they express a desire to know more about these issues.

Students today are making strides, and in some cases sacrifices, in an effort to help the environment. They (and their families) are saving energy by turning off lights, saving water by turning off faucets and recycling bottles and cans. However, students from non-disadvantaged areas are often significantly more likely than students from disadvantaged areas to engage in these activities. Differences in environment-friendly practices could be due in part to the different issues that youth consider "serious," more so than the opportunity to do these things. The issues of most concern to students from disadvantaged areas are problems that are difficult for anyone to tackle or remedy. Shortages of water, acid rain and a lack of energy, issues of greater concern to students from disadvantaged areas, are perhaps less easy for students to get involved with than

recycling, which students from non-disadvantaged areas relate to and get involved with. Nevertheless, the concern about immediate and local issues suggests that a youth action agenda for these "tough to tackle" issues might spur greater action on the part of students from disadvantaged areas.

The data suggest that school has an important role to play in environmental education, and the development of good environmental practices. In fact, school is of a greater importance to students from disadvantaged areas than it is for students from non-disadvantaged areas. But interest in the environment isn't being translated yet into involvement in environmental activities, either in school or the community. The problem, however, appears to be a lack of programs (or awareness of programs). The survey finds a willingness to get involved, if appropriate programs are available and promoted.

Beyond formal education, there exist a few ways to increase interest and involvement. The methods currently used and preferred by young people to learn about the environment, such as television, school and the family, should be effective ways to communicate environmental information to both disadvantaged and non-disadvantaged students. Encouraging new creative approaches, such as incentives and prizes for cleaning up neighborhoods or designing posters regarding the environment (and among students from disadvantaged areas, prizes for writing rap songs about the environment) are also likely to increase interest, awareness and involvement among today's young people.

Fulfilling the needs, creating new opportunities for involvement and providing additional information to those who lack it can only aid the environmental movement, both now and when these young people, whether from disadvantaged or non-disadvantaged areas, become adults.

METHODOLOGY

METHODOLOGY

This report is Phase III of a three phase project to better understand the attitudes and behaviors of youth as they relate to the environment. Phase I was a series of focus groups, Phase II a national cross-section of American Youth and Phase III a survey of students in disadvantaged areas only.

A school-based sample was employed for this survey, allowing both disadvantaged and non-disadvantaged students to be contacted in the same manner. The schools were randomly selected, as were the classes which took part in the survey. Young people were presented with questionnaires in their English class and filling out of the questionnaire was supervised by the teacher. A total of 2,139 students were interviewed for this survey; interviewing was conducted between September 23 and October 24, 1994.

Selection of Schools

Starting with a database of all schools nationwide, ZIP Codes, urbanicity/ type of school (public, private, parochial), grade, enrollment and Census region were designated for each school. The schools were then stratified by Census region and urbanicity/school type (public, private, parochial).

There were three stages in the random selection of the stratified schools: Stage 1 ordered the schools by estimated enrollment for grades 4 through 12, largest to smallest. Their total enrollment was divided by the number of schools to be selected, producing an interval used in conjunction with the cumulative enrollment to select the sample of schools systematically. This ensured that the selection of schools was proportionate to enrollment;

Stage 2 randomly selected one grade in each sample school, with each eligible grade having equal probability of selection; Stage 3 randomly selected one class in the designated grade that would receive the survey. This was performed once a school consented to participate in the survey (see below). Each student in the class was given a questionnaire, supervised by the teacher.

After Stage 1, the schools were assigned to packets, five schools to a packet, with one school selected to be contacted for consent and four replacement schools. All schools in a packet were of the same stratus and enrollment level, grade range and similar ZIP characteristics. A total of 91 schools participated in the survey of students from disadvantaged areas.

Consent of Schools

Once a school had been selected in Stage 1 above, a letter was sent to the principal of the school detailing the survey's sponsor, NEETF, and purpose of the study. This letter was followed by a phone-call to the principal, who decided whether or not the school would participate in the study. If consent was granted, the principal was then asked to name all of the English classes in the appropriate grade (Stage 2 above). The recruiter then randomly selected the one class of those named that would receive the survey (Stage 3 above).

If consent was not given, a similar school from the packet was selected as a replacement.

Disadvantaged and Non-disadvantaged Status

As this is a survey of students nationwide, with a focus on the differences in students in disadvantaged areas and youth in non-disadvantaged areas, a methodology had to be instituted to determine this status for each school. Disadvantaged or non-disadvantaged status was linked to the ZIP Code of each school. ZIP Codes with 30% or more of the population below the poverty line were designated "disadvantaged" schools; the balance were designated "non-disadvantaged" schools. This approximates the Census definition of "poverty areas," which are Census tracts with 20% or more of the population living below the poverty threshold. With the Census data, 18% of all children live in poverty tracts; with the ZIP Code data, 17% live in poverty areas.

Weighting

The data was weighted back to the original universe, the total school enrollment of students from disadvantaged areas in grades 4 through 12. Four variables were included in the weighting to bring the sample data in line with the total universe data:

1) level of school (elementary, middle, senior high, K-12);
2) region (Northeast, Midwest, South, West);
3) control of school (public, private, parochial)
4) size (enrollment in grades 4-12: 1-199, 200-499, 500-999, and 1000 or more);

Charts and Tables

Responses were computerized and rounded off to the nearest whole percent. As a result, percentages in certain tables may sometimes total more than 100%. Data concerning demographic subgroups is discussed only when relevant or noteworthy; otherwise, this data is often omitted. Also, in certain tables the results of those who said "don't know" or chose not to answer may have been omitted.

APPENDIX A: DEMOGRAPHIC PROFILE OF YOUTH

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DEMOGRAPHIC PROFILE OF YOUTH

	Sample of Students from Disadvantaged Areas	Sample of Students from Non-disadvantaged Areas
Gender:		
Male	46%	47%
Female	53	53
Race:		
White	37	71
Black / African American	36	8
American Indian / Alaskan Native	4	2
Asian / Asian American	3	4
Other	15	11
No answer	5	4
Hispanic Origin:		
Yes	19	13
No	69	77
No answer	11	10
Grade:		
4-5	26	23
6-8	33	35
9-10	17	25
11-12	23	18
Use of Food Stamps:		
Yes	19	6
No	73	87
No answer	9	6

APPENDIX B: CLUSTER AND PATH ANALYSES

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Cluster Analysis

The clustering technique utilized in this study looks for homogeneous groups which exist in the sample of students examined; it does not create these groups. Rather, the technique identifies members of existing groups by looking at the responses of each respoindent in the sample to see if that respondent is similar to any existing groups and, simultaneously, different from the respondents in any other groups. In this case, we selected the environmental issues students consider "most serious" as our criteria, and we used these items as the basis for grouping or segmenting the population.

A k-Means clustering procedure was used to identify 5 groups of students, from both Phase II (national cross-section) and Phase III (youth from disadvantaged areas) of this research. This was done after the data was weighted to bring the "disadvantaged" student population in-line with its true percentage of the population, about 17%. Since the samples were randomly selected and approximated the real population of students, we can reasonably assert that our 5 clusters represent natural groups in the student population as a whole.

Path Analysis

In this survey, we have examined many aspects of students' attitudes, values, knowledge, education, beliefs, concerns, and behavior regarding a wide variety of environmental issues. The question which logically emerges is what is the relationship among these variables: Does environmental education lead to changes in environmental behavior; or, does pro-environmental behavior cause one to seek out additional environmental information and education; or is there a different type of relationship which exists? In this section, we attempt an integrated analysis of a substantial portion of these data elements.

Our approach will be from a path analytic perspective. Path analysis, due to Wright (1934)[1], is a technique to assess the direct causal contribution of one variable to another in a non-experimental dataset. The problem, in general, is one of estimating the coefficients of a set of linear structural equations, representing the cause and effect relationships hypothesized by the investigator. The system involves variables of two kinds: independent (or cause) variables and dependent (or effect) variables.

In this instance, we intend to examine the causal relationship among the system of variables delineated below:

Independent variables

- Demographics Factors
  1. Region (Northeast/Midwest/South/West
  2. Urbanicity (Urban/Suburban/Rural)
  3. Disadvantaged/Non-disadvantaged Status

- Environmental Education Sources
  1. Q6. Parents
     How much do you think your parents or other adults in your house know about environmental issues and problems?
     (a lot / a fair amount / only a little / practically nothing)

  2. Q7. Schools
     Young people learn about a lot of topics in school. Thinking about all of your classes, how much would you say you are learning about environmental issues in school?
     (a lot / a fair amount / only a little / practically nothing)

- Obstacles/Opportunities for Involvement in Environmental Activities
  1. Q23. Overall ease of getting involved
     How easy or hard would it be for you to get involved in helping to do things for the environment?
     (very easy / sort of easy / sort of hard / very hard)

  2. Q24. Opportunities at schools
     Do you know about any groups or clubs at your school where people can work with others to help do things for the environment?
     (yes / no)

  3. Q26. Opportunities in community
     Do you know about any groups or clubs in your community, apart from school, where people can work with others to help do things for the environment?
     (yes / no)

Dependent Variables

- Environmental Knowledge
  1. Q5. Self Report
     How much do you think you know about environmental issues and problems?
     (a lot / a fair amount / only a little / practically nothing)

- Environmental Concern
  1. Q.8. Seriousness Attributed to Environmental Issues
     Here is a list of environmental issues people talk about. For each one, mark whether you think it is one of the most serious environmental problems, sort of serious, or not that serious.

     a) Destruction of the rainforest
     b) Endangered animals, plants, insects
     c) Air pollution or smog
     d) Not enough energy (such as electricity, oil, etc.)
     e) Pollution of lakes, rivers, streams
     f) Acid rain, that is, air pollution that makes rain acidic, causing damage to lakes and forests
     g) Damage to the ozone layer over the earth, permitting strong rays to get through, causing skin cancer and other problems
     h) Too little recycling
     i) Global warming, that is, a build-up of certain gases in the atmosphere that will cause the temperature on earth to rise
     j) Lead poisoning from water, old paint, etc.
     k) Not enough landfill space for garbage and trash
     l) Shortages of good drinking water
     m) Littering of trash and garbage
     n) Pollution from toxic or hazardous dump sites
     o) Pollution of water from fertilizers and pesticides used in farming
     p) Not enough open areas, woods, trees, grass, natural places
     q) Damage to the environment caused by mining or cutting down trees
     r) Polluted ocean water and unsafe beaches
     s) Destruction or filling in or wetlands, that is, places where birds and fish breed

- Desire for More Environmental Knowledge
  1. Q.12 Further Knowledge
     And which two or three of these issues, if any, would you really like to know more about.

     a) Destruction of the rainforest
     b) Endangered animals, plants, insects
     c) Air pollution or smog
     d) Not enough energy (such as electricity, oil, etc.)
     e) Pollution of lakes, rivers, streams
     f) Acid rain, that is, air pollution that makes rain acidic, causing damage to lakes and forests
     g) Damage to the ozone layer over the earth, permitting strong rays to get through, causing skin cancer and other problems
     h) Too little recycling
     i) Global warming, that is, a build-up of certain gases in the atmosphere that will cause the temperature on earth to rise
     j) Lead poisoning from water, old paint, etc.
     k) Not enough landfill space for garbage and trash
     l) Shortages of good drinking water
     m) Littering of trash and garbage
     n) Pollution from toxic or hazardous dump sites
     o) Pollution of water from fertilizers and pesticides used in farming
     p) Not enough open areas, woods, trees, grass, natural places
     q) Damage to the environment caused by mining or cutting down trees
     r) Polluted ocean water and unsafe beaches
     s) Destruction or filling in or wetlands, that is, places where birds and fish breed

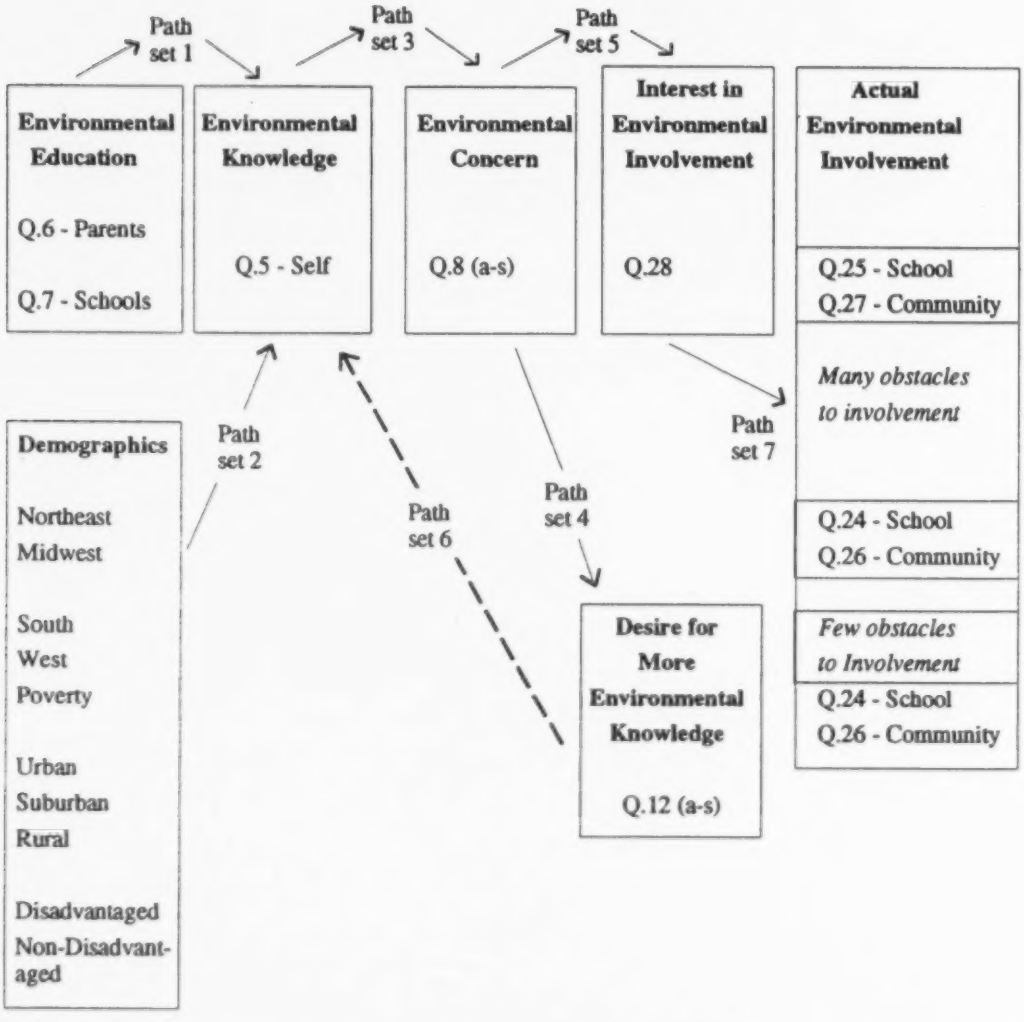
- Interest in Involvement in Environmental Activities
  1. Q.28 How interested would you be in working with others, or joining a group or club to help do things for the environment? (very interested / somewhat interested / not too interested / not at all interested)

- Involvement in Environmental Activities
  1. Q25. Opportunities at schools
     By any chance, have you yourself joined a group or club at school to help do things for the environment?
     (yes / no)

  2. Q27. Opportunities in community
     By any chance, have you yourself joined a group or club in your community to help do things for the environment?
     (yes / no)

For the sake of simplicity, we present an abbreviated version of the path diagram representing our "model" in the figure below.

Appendix B



Basically, the model works as follows. Environmental education (Q.6 and Q.7) is hypothesized to lead to environmental knowledge (Q.5) [pathset-1]; demographic factors (region, urbanicity, and disadvantaged status) also influence environmental knowledge (Q.5) [pathset-2]. Environmental knowledge (Q.5) is hypothesized to lead to environmental concern (Q.8a-s) [pathset-3]. Environmental concern (Q.8a-s) is hypothesized to lead to a desire for more environmental knowledge (Q.12a-s) [pathset-4] and an interest in involvement in environmental activities (Q.28) [pathset-5].

On the one hand, the desire for more environmental knowledge (Q.12a-s) is hypothesized to lead to increased environmental knowledge (Q.5) [pathset-6], while interest in involvement in environmental activities(Q.28) is hypothesized to lead to actual involvement in environmental activities(Q.25,27), particularly when there are few obstacles standing in the way (Q.23,24,26) [pathset-7].

Table 2, below and on the next three pages, provides a detailed presentation of all the path coefficients involved in the model summarily described above. These coefficients were derived using the maximum likelihood simultaneous equation solution from LISREL 7 (Joreskog and Sorbom, 1989)[2]. Throughout this table, one asterisk (*) indicates a statistically significant relationship, while a double asterisk (**) indicates a highly statistically significant relationship.

Table 2

Pathset-1: Environmental educational background (q6,7)
influences
Environmental knowledge (q5)

	q6	q7
q5	0.221**	0.078*

Pathset-2: Demographics influence environmental knowledge (q5) and environmental concern (q8a-s)

	Disadvantaged	Non-disadvantaged	Northeast	Midwest	South	West
q5	-0.12**	0.04*	0.00	0.03	-0.04	0.06
Q08A	-0.12**	0.04*	0.04*	0.01	-0.05**	0.06**
Q08B	-0.06	0.02	0.05	-0.01	-0.02	0.02
Q08C	-0.04	0.01	0.04	-0.01	-0.02	0.02
Q08D	0.03	-0.01	0.01	-0.05**	0.06**	-0.09**
Q08E	-0.05*	0.02	0.00	0.01	-0.01	0.01
Q08F	-0.02	0.01	0.06	-0.03	0.00	0.00
Q08G	0.00	0.00	0.06*	-0.02	-0.01	-0.03*
Q08H	-0.09	0.03	0.06*	0.01	-0.05*	0.06*
Q08I	-0.02	0.01	0.08**	-0.05**	0.01	-0.02
Q08J	0.05	-0.02	0.06**	-0.08**	0.03	0.02
Q08K	-0.04	0.01	0.06**	0.02	-0.05**	0.00
Q08L	0.00	0.00	0.03	-0.03	0.02	-0.01
Q08M	-0.04	0.01	0.05	-0.03	-0.01	0.03
Q08N	-0.03	0.01	0.06	-0.03	-0.01	0.01
Q08O	-0.02	0.01	0.03	-0.05*	0.02	0.03
Q08P	0.00	0.00	0.03	0.02	-0.03	0.02
Q08Q	-0.02	0.01	0.04	-0.02	-0.01	0.04
Q08R	-0.05*	0.02	0.05*	-0.05*	0.01	0.03
Q08S	-0.08*	0.03	0.05	-0.02	-0.02	0.05

	urban	suburban	rural
q5	0.01	0.01	0.00
Q08A	-0.07**	0.07**	0.00
Q08B	-0.04**	0.04**	0.01
Q08C	-0.04**	0.06**	-0.01
Q08D	0.00	0.01	0.00
Q08E	-0.02	0.03	-0.01
Q08F	-0.02	0.00	0.02
Q08G	-0.01	0.03	-0.02
Q08H	-0.07**	0.06**	0.02
Q08I	-0.02	0.00	0.02
Q08J	0.02	-0.02	0.00
Q08K	-0.03	0.03	0.01
Q08L	0.01	0.02	-0.03
Q08M	-0.02	-0.01	0.03
Q08N	-0.01	0.01	0.01
Q08O	0.00	0.00	0.00
Q08P	0.00	-0.02	0.02
Q08Q	-0.03	0.02	0.01
Q08R	-0.02	0.01	0.02
Q08S	-0.06**	0.02	0.04**

Appendix B

Pathset-3: Environmental knowledge (q5) leads to Environmental concern (q8a-s)

q5	
Q08A	0.095**
Q08B	0.098**
Q08C	0.079**
Q08D	-0.007
Q08E	0.062**
Q08F	0.074**
Q08G	0.037**
Q08H	0.057**
Q08I	0.074**
Q08J	0.025
Q08K	0.031*
Q08L	0.020
Q08M	0.063**
Q08N	0.076**
Q08O	0.077**
Q08P	0.064**
Q08Q	0.072**
Q08R	0.062**
Q08S	0.067**

Pathset-4: Environmental concern (q8a-s) leads to Desire for more environmental knowledge (q12a-s)

q8a-q12a	0.113*
q8a-q12b	0.185**
q8c-q12c	-0.002
q8d-q12d	0.029
q8e-q12e	0.053
q8f-q12f	0.011
q8g-q12g	0.144**
q8h-q12h	-0.007
q8i-q12i	0.115**
q8j-q12j	0.121**
q8k-q12k	0.034
q8l-q12l	0.044
q8m-q12m	-0.011
q8n-q12n	0.001
q8o-q12o	0.037
q8p-q12p	0.084**
q8q-q12q	0.048
q8r-q12r	0.059
q8s-q12s	0.092*

Pathset-5: Environmental concern (q8a-s) leads to Interest in involvement in environmental activities (q28)

	q28
Q08A	0.097
Q08B	0.340**
Q08C	0.013
Q08D	-0.122**
Q08E	0.100
Q08F	0.174**
Q08G	-0.039
Q08H	0.404**
Q08I	-0.055
Q08J	0.097
Q08K	-0.103
Q08L	0.068
Q08M	0.342**
Q08N	-0.050
Q08O	0.183**
Q08P	0.012
Q08Q	0.304**
Q08R	-0.090
Q08S	-0.074

Pathset-6: Desire for more environmental knowledge (q12a-s) leads to More overall environmental knowledge (q5)

	q5
Q12_A	-0.024
Q12_B	-0.024
Q12_C	-0.048
Q12_D	-0.191**
Q12_E	0.107
Q12_F	0.079
Q12_G	-0.106
Q12_H	0.027
Q12_I	-0.137*
Q12_J	-0.093
Q12_K	-0.096
Q12_L	0.001
Q12_M	-0.005
Q12_N	0.062
Q12_O	0.068
Q12_P	0.037
Q12_Q	0.085
Q12_R	0.009
Q12_S	0.037

Pathset-7: Interest in involvement in environmental activities (q28) leads to Actual involvement in environmental activities (q25,q27)

		obstacles(q23) low	obstacles(q23) high
	q28	q28	q28
q25	0.102**	0.112**	0.107**
q27	0.115**	0.138**	0.081**

Thus, for example, in Pathset 1, the hypothesized relationship between parental environmental knowledge (Q.6) and a student's own knowledge (Q.5) is strong (0.221), stronger in fact than the relationship between environmental education in school (Q.7) and a student's own environmental knowledge (Q.5), which has a path coefficient of 0.078.

At the same time, another strong relationship exists between disadvantaged/non-disadvantaged status and overall environmental knowledge (Q.5), part of Pathset 2. The path coefficient for disadvantaged students and environmental knowledge is -0.012, indicating that these students tend to know less about the environment than students from non-disadvantaged areas, whose path coefficient for these two variables is 0.04.

Pathset 3, the hypotheisized relationship between environmental knowledge (Q.5) and environmental concern (Q.8a-s) is strong. In other words, students who profess to a good deal of environmental knowledge also tend to exhibit high levels of concern about various environmental issues and problems. Thus, the path coefficient between overall knowledge and concern about endangered plants, animals, insects is 0.098 and the path coefficient between overall knowledge and destruction of the rainforest is 0.095. This relationship is significant for sixteen of the nineteen issues, though the coefficients are lower.

In turn, concern about an environmental issue (Q.8a-s) often leads to the desire for further knowledge of that same issue (Q.12a-s) [Pathset 4]. The issues for which these two variables relate most closely include endangered plants, animals, insects (0.185), damage to the ozone layer (0.144), lead poisoning from water or old paint (0.121) and global warming (0.115). The relationship between concern and desire for further knowledge is weaker for other issues.

The next step in the path analysis was to discern if environmental concern (Q.8a-s) leads to interest in involvement in environmental activities (Q.28). As seen in Pathset 5, concern about various environmental problems often ties significantly to interest in involvement in environmental activities. The strong path coefficient for problems such as littering of trash and garbage (0.342), endangered animals, plants, insects (0.340), damage to the environment from mining or cutting down trees (0.304) and pollution of water from pesticides or fertilizers used in farming (0.183) indicate that concern for these problems leads many students to report interest in involvement in environmental groups and clubs. For other environmental problems, though, the relationship is either weaker or non-existent, such as not having enough energy (-0.122) and pollution of ocean waters or beaches (-0.090).

In Pathset 6, the desire for further environmental knowledge (Q.12a-s) was hypothesized to lead to greater environmental knowledge overall (Q.5). From the data, however, there is little support that a relationship exists between these two variables, and for nine of the nineteen problems, the relationship is negative, indicating that further knowledge of an issue may actually turn some students away from an increase in their overall knowledge. In the ten cases where the relationship is positive, none are significant, an indication that these two variables do not effect each other, at least in the terms of this path analysis.

Finally, in Pathset 7, we see a strong and significant relationship between interest in joining an environmental group (Q.28) and actual involvement in environmental activities (Q.25, Q.27). Thus, students who report an interest in joining a group often report joining groups both at school (Q.25, path coefficient of 0.102) and in the community (Q.27, path coefficient of 0.115).

In addition, we examined this relationship through a third variable, the existence of obstacles to involvement, generated by responses to Q.23, how easy or hard students feel it would be for them to be personally involved. As might be expected, when there is a low level of obstacles to personal involvement ("very easy" or "sort of easy"), interest in being involved is linked more closely with actual involvement (path coefficients of 0.112 for groups at school and 0.138 for groups in the community) than when students feel a high level of obstacles to personal involvement ("sort of hard" or "very hard"), path coefficients for which are 0.107 for groups at school and 0.081 for groups in the community. In other words, while participation in environmental groups is related strongly to interest in involvement, students who feel there are few obstacles to their personal involvement exhibit a greater likelihood of actual involvement than students who report a high level of obstacles to involvement.

Overall, then, a distinct path leads from environmental knowledge to environmental concern, from environmental concern to interest in involvement in environmental activities, and finally from interest in involvement in environmental activities to actual involvement in environmental groups, especially if there are few obstacles to involvement.

Notes:

1. Wright, S. (1934) The method of path coefficients. Annals of Mathematical Studies, 5, 161-215.

2. Joreskog, Karl and Dag Sorbom. (1989) LISREL 7: A Guide to the Program and Applications. Chicago: SPSS Inc.

QUESTIONNAIRE

AMERICAN YOUTH SURVEY

(1-4)
5

This survey is being conducted to help learn more about young people's attitudes toward things that are happening today. This is not a test. There are no right or wrong answers, so please be as honest as you can about your own feelings. No one will ever know which questionnaire is yours.

MARKING INSTRUCTIONS

- Put an "X" in the square.
- Erase clearly any marks you wish to change.
- Do not make any stray marks on this form.

Proper Mark: ☒

1. How likely is it that young people like yourself will have a better life than their parents? Would you say it is very likely, somewhat likely, somewhat unlikely, or very unlikely? (CHECK ONE BOX)

Very likely	☐ 1	6/
Somewhat likely	☐ 2	
Somewhat unlikely	☐ 3	
Very unlikely	☐ 4	
Don't know	☐ Y	

2. Here is a list of some social problems. For each, do you think it affects *you and your family* more, less, or about the same as most people in this country? (CHECK ONE BOX FOR EACH ITEM)

	More (1)	Less (2)	About The Same (3)	Don't Know (Y)	
a. Crime	☐	☐	☐	☐	7/
b. Pollution	☐	☐	☐	☐	8/
c. Problems with money	☐	☐	☐	☐	9/

3. Here is a list of things some young people have said they worry about today. How worried are you personally about each of the following--*very* worried, *sort of* worried, or *not really* worried at all? (CHECK ONE BOX FOR EACH ITEM UNDER "QUESTION 3" BELOW)

4. Suppose you could help make a couple of things on this list better. Thinking about the impact these things have on your life today and in the future, which 2 or 3 things would you pick to help make better. (CHECK TWO OR THREE BOXES FOR EACH ITEM UNDER "QUESTION 4" BELOW)

	Question 3. Very Worried (1)	Sort Of Worried (2)	Not Really Worried (3)	Don't Know (Y)		Question 4. Would Change	
a. Homelessness	☐	☐	☐	☐	10/	☐ 1	20/
b. The economy in this country, for example people losing jobs, not having enough money to live, etc.	☐	☐	☐	☐	11/	☐ 2	
c. Discrimination against African-Americans, Hispanics, and other minorities	☐	☐	☐	☐	12/	☐ 3	
d. The disease called AIDS	☐	☐	☐	☐	13/	☐ 4	
e. The large number of people in this country who have guns	☐	☐	☐	☐	14/	☐ 5	
f. The kidnapping of children and teenagers	☐	☐	☐	☐	15/	☐ 6	
g. People using illegal drugs	☐	☐	☐	☐	16/	☐ 7	
h. The harming of our natural environment, for example, pollution, extinction of animals, etc.	☐	☐	☐	☐	17/	☐ 8	
i. Crime and violence in your neighborhood	☐	☐	☐	☐	18/	☐ 9	
j. The number of parents getting divorced	☐	☐	☐	☐	19/	☐ 0	

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The next few questions have to do with the "natural" environment, things like the air we breathe; water in lakes, streams and rivers; trees and other plant life; animals; etc.

5. How much do you think you know about environmental issues and problems? (CHECK ONE BOX)

A lot ..... ☐ 1 Practically nothing ..... ☐ 4 21/

A fair amount ..... ☐ 2 Not sure ..... ☐ Y

Only a little ..... ☐ 3

6. How much do you think your parents or other adults in your house know about environmental issues and problems? (CHECK ONE BOX)

A lot ..... ☐ 1 Practically nothing ..... ☐ 4 22/

A fair amount ..... ☐ 2 Not sure ..... ☐ Y

Only a little ..... ☐ 3

7. Young people learn about a lot of topics in school. Thinking about all of your classes, how much would you say you are learning about environmental issues in school? (CHECK ONE BOX)

A lot ..... ☐ 1 Practically nothing ..... ☐ 4 23/

A fair amount ..... ☐ 2 Not sure ..... ☐ Y

Only a little ..... ☐ 3

8. Here is a list of environmental issues people talk about. For each one, mark whether you think it is one of the *most* serious environmental problems, *sort of* serious, or *not that* serious. (CHECK ONE BOX FOR EACH ITEM UNDER "QUESTION 8" BELOW)

9. Which two or three of these problems do you think are the *most* serious? (CHECK TWO OR THREE BOXES FOR EACH ITEM UNDER "QUESTION 9" BELOW)

	Question 8. One Of Most Serious (1)	Sort Of Serious (2)	Not That Serious (3)	Don't Know (Y)		Question 9. Most Serious	
a. Destruction of the rainforest	☐	☐	☐	☐	24/	☐ 1	43/
b. Endangered animals, plants, insects	☐	☐	☐	☐	25/	☐ 2	
c. Air pollution or smog	☐	☐	☐	☐	26/	☐ 3	
d. Not enough energy (such as electricity, oil, etc.)	☐	☐	☐	☐	27/	☐ 4	
e. Pollution of lakes, rivers, streams	☐	☐	☐	☐	28/	☐ 5	
f. Acid rain, that is, air pollution that makes rain acidic, causing damage to lakes and forests	☐	☐	☐	☐	29/	☐ 6	
g. Damage to the ozone layer over the earth, permitting strong rays to get through, causing skin cancer and other problems	☐	☐	☐	☐	30/	☐ 7	
h. Too little recycling	☐	☐	☐	☐	31/	☐ 8	
i. Global warming, that is, a build-up of certain gases in the atmosphere that will cause the temperature on earth to rise	☐	☐	☐	☐	32/	☐ 9	
j. Lead poisoning from water, old paint, etc.	☐	☐	☐	☐	33/	☐ 0	
k. Not enough landfill space for garbage and trash	☐	☐	☐	☐	34/	☐ 1	44/
l. Shortages of good drinking water	☐	☐	☐	☐	35/	☐ 2	
m. Littering of trash and garbage	☐	☐	☐	☐	36/	☐ 3	
n. Pollution from toxic or hazardous dump sites	☐	☐	☐	☐	37/	☐ 4	
o. Pollution of water from fertilizers and pesticides used in farming	☐	☐	☐	☐	38/	☐ 5	
p. Not enough open areas, woods, trees, grass, natural places	☐	☐	☐	☐	39/	☐ 6	
q. Damage to the environment caused by mining or cutting down trees	☐	☐	☐	☐	40/	☐ 7	
r. Polluted ocean waters and unsafe beaches	☐	☐	☐	☐	41/	☐ 8	
s. Destruction or filling in of wetlands, that is, places where birds and fish breed	☐	☐	☐	☐	42/	☐ 9	

10. **Which of these problems have personally affected you or your family in your everyday life? (CHECK ALL BOXES THAT APPLY UNDER "QUESTION 10" BELOW)**

11. **Now, look down this list again, and mark which two or three issues you feel you *know the most* about. (CHECK TWO OR THREE BOXES UNDER "QUESTION 11" BELOW)**

12. **And which two or three of these issues, if any, would you really like to *know more* about. (CHECK TWO OR THREE BOXES UNDER "QUESTION 12" BELOW)**

		10. Personally Affected		11. Know The Most About		12. Would Like To Know More About	
a.	Destruction of the rainforest	☐ 1	45/	☐ 1	47/	☐ 1	49/
b.	Endangered animals, plants, insects	☐ 2		☐ 2		☐ 2	
c.	Air pollution or smog	☐ 3		☐ 3		☐ 3	
d.	Not enough energy (such as electricity, oil, etc.)	☐ 4		☐ 4		☐ 4	
e.	Pollution of lakes, rivers, streams	☐ 5		☐ 5		☐ 5	
f.	Acid rain, that is, air pollution that makes rain acidic, causing damage to lakes and forests	☐ 6		☐ 6		☐ 6	
g.	Damage to the ozone layer over the earth, permitting strong rays to get through, causing skin cancer and other problems	☐ 7		☐ 7		☐ 7	
h.	Too little recycling	☐ 8		☐ 8		☐ 8	
i.	Global warming, that is, a build-up of certain gases in the atmosphere that will cause the temperature on earth to rise	☐ 9		☐ 9		☐ 9	
j.	Lead poisoning from water, old paint, etc.	☐ 0		☐ 0		☐ 0	
k.	Not enough landfill space for garbage and trash	☐ 1	46/	☐ 1	48/	☐ 1	50/
l.	Shortages of good drinking water	☐ 2		☐ 2		☐ 2	
m.	Littering of trash and garbage	☐ 3		☐ 3		☐ 3	
n.	Pollution from toxic or hazardous dump sites	☐ 4		☐ 4		☐ 4	
o.	Pollution of water from fertilizers and pesticides used in farming	☐ 5		☐ 5		☐ 5	
p.	Not enough open areas, woods, trees, grass, natural places	☐ 6		☐ 6		☐ 6	
q.	Damage to the environment caused by mining or cutting down trees	☐ 7		☐ 7		☐ 7	
r.	Polluted ocean waters and unsafe beaches	☐ 8		☐ 8		☐ 8	
s.	Destruction or filling in of wetlands, that is, places where birds and fish breed	☐ 9		☐ 9		☐ 9	

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13. Many people today are talking about the environment and give different reasons for wanting to protect it. Here is a list of reasons that have been given for protecting the environment. Which one or two do you think are the most important? (CHECK ONE OR TWO BOXES)

a.	To preserve recreational areas, such as natural parks	☐ 1	54/
b.	To protect human health from pollution	☐ 2	
c.	To ensure that natural places and wildlife will always exist	☐ 3	
d.	To protect natural resources that our economy relies on, such as timber for houses or rivers for fish	☐ 4	
e.	To protect natural resources for the use of future generations	☐ 5	
f.	Other (what?): _____	☐ 6	
	None	☐ 7	
	Don't know	☐ Y	

14. Now thinking specifically about water pollution, here is a list of reasons that people give for wanting to protect water. Which one or two do you think are the most important? (CHECK ONE OR TWO BOXES)

a.	To protect recreation areas, such as lakes, and streams, for the public to use	☐ 1	51/
b.	To protect human health	☐ 2	
c.	To protect plants and animals	☐ 3	
d.	To protect water-dependent industries, such as logging, fishing, and farming	☐ 4	
e.	To protect water supplies for the use of future generations	☐ 5	
f.	Other (what?): _____	☐ 6	
	None	☐ 7	
	Don't know	☐ Y	

15. Thinking now about littering of trash and garbage, here is a list of reasons that people give for wanting to reduce the amount of littering and garbage. Which one or two do you think are the most important? (CHECK ONE OR TWO BOXES)

a.	To keep areas clean and nice for people to enjoy today	☐ 1	52/
b.	To protect human health	☐ 2	
c.	To protect plants and animals	☐ 3	
d.	To save and recycle resources, like glass and plastic	☐ 4	
e.	To keep areas clean and nice for future generations	☐ 5	
f.	Other (what?): _____	☐ 6	
	None	☐ 7	
	Don't know	☐ Y	

16. Imagine you were put in charge of a government agency concerned about the environment, and you had a million dollars you could spend. If you had to choose to spend the money either on cleaning up the environment today in neighborhoods like yours, or on research that would help protect the environment for future generations, which would you choose? (CHECK ONE BOX)

Cleaning up environment in neighborhoods today	☐ 1	53/
Research that would protect environment for future generations	☐ 2	
Don't know	☐ Y	

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17. Do you have any reason to believe that you don't have enough good drinking water or that you didn't have enough good drinking water in the past? (CHECK ONE BOX)

Yes	☐ 1	(ANSWER Q.18)	55/
No	☐ 2	(SKIP TO Q.19)	
Not sure	☐ Y		

18. What makes you think that you don't have enough good drinking water now or that you didn't have enough in the past? (CHECK ALL BOXES THAT APPLY)

The taste of the water	☐ 1	31/
The look of the water	☐ 2	
The smell of the water	☐ 3	
Adults in my house told me so	☐ 4	
Turned on the tap and no water came out	☐ 5	
Saw it on a TV news or nature program	☐ 6	
Heard about it on the radio	☐ 7	
Read about it in the newspaper	☐ 8	
Learned about it at school	☐ 9	
Other (what?): _____	☐ 1	32/
None of these things	☐ 2	
Don't know	☐ Y	

19. Here are some ways young people may learn about the environment in school. Which of the items listed below, if any, are ways you have learned about the environment at school? (CHECK ALL BOXES THAT APPLY UNDER "QUESTION 19" BELOW)

20. Among the ways that you have learned about the environment in school, which one way taught you the most? (CHECK ONE BOX UNDER "QUESTION 20" BELOW)

	Question 19. Ways Learned At School		Question 20. Taught Me The Most	
Learned about the environment in regular science class	☐ 1	33/	☐ 1	34/
Learned about the environment in a geography class	☐ 2		☐ 2	
Taken a special class that teaches about the natural environment	☐ 3		☐ 3	
Learned about the environment in some other class, such as English or Social Studies	☐ 4		☐ 4	
Gone on a field trip to a museum, park or zoo	☐ 5		☐ 5	
Been to an assembly and listened to an expert or group speak about the environment	☐ 6		☐ 6	
Joined a club that meets during or after school	☐ 7		☐ 7	
Participated in a recycling or environmental clean-up with your school	☐ 8		☐ 8	
Other (what?) _____	☐ 0		☐ 0	
None of these	☐ X		☐ X	
Don't know	☐ Y		☐ Y	

21. Here is a list of things that some people have done to help the environment. Which are the things that you, on your own, or with someone at your house *makes a real effort* to do. (CHECK ALL BOXES THAT APPLY)

Return soda or beer bottles or cans to a store or recycling center	☐	1	56/
Sort trash to recycle things like newspapers, cans, glass jars, plastic containers, etc.	☐	2	
Pick up litter or trash in your neighborhood or area	☐	3	
Save energy (turn off lights when you leave a room)	☐	4	
Save water (don't waste water, or turn it off when brushing teeth)	☐	5	
Cut down on the types of pesticides and fertilizers used for yards, trees, gardens, crops, etc.	☐	6	
Buy products made from recycled paper, or products that can be refilled or reused	☐	7	
Cut down on smoking and other things that cause indoor air pollution in your house	☐	8	
Cut down on littering	☐	9	
Cut down on the amount of garbage and trash you make	☐	1	57/
None	☐	2	
Not sure	☐	3	

22. Here are some reasons kids give for not doing more for the environment. Is each of the following a reason you yourself don't do more for the environment or not? (CHECK ONE BOX FOR EACH ITEM)

		Is A Reason (1)	Is Not A Reason (2)	Not Sure (Y)	
a.	I've got bigger things to worry about than the environment	☐	☐	☐	58/
b.	Where I live, it's not safe to walk around picking up litter	☐	☐	☐	59/
c.	The problem of the environment is so big, there's not much I could do to help	☐	☐	☐	60/
d.	My friends would probably make fun of me	☐	☐	☐	61/
e.	There's no place to turn to learn more about environmental problems	☐	☐	☐	62/
f.	I don't have the money it takes to get involved	☐	☐	☐	63/
g.	There are no recycling bins or recycling centers near where I live	☐	☐	☐	64/
h.	My family probably would not support my efforts	☐	☐	☐	65/
i.	I don't know what else I could do to help the environment	☐	☐	☐	66/

23. **How easy or hard would it be for you to get involved in helping to do things for the environment?** (CHECK ONE BOX)

Very easy	☐ 1	67/
Sort of easy	☐ 2	
Sort of hard	☐ 3	
Very hard	☐ 4	
Don't know	☐ Y	

24. **Do you know about any groups or clubs at your school where people can work with others to help do things for the environment?** (CHECK ONE BOX)

Yes	☐ 1	68/
No	☐ 2	

25. **By any chance, have you yourself joined a group or club at school to help do things for the environment?**

Yes	☐ 1	69/
No	☐ 2	

26. **Do you know about any groups or clubs in your community, apart from school, where people can work with others to help do things for the environment?**

Yes	☐ 1	70/
No	☐ 2	

27. **By any chance, have you yourself joined a group or club in your community to help do things for the environment?**

Yes	☐ 1	71/
No	☐ 2	

28. **How interested would you be in working with others, or joining a group or club to help do things for the environment?** (CHECK ONE BOX)

Very interested	☐ 1	72/
Somewhat interested	☐ 2	
Not too interested	☐ 3	
Not at all interested	☐ 4	
Don't know	☐ Y	

29. **Here are some sources where you might have learned about environmental problems and issues. From which two or three sources have you learned the most about environmental problems and issues? (CHECK TWO OR THREE BOXES)**

From your family	☐ 1	73/
In school	☐ 2	
From TV news, TV nature programs, etc.	☐ 3	
Listening to the radio	☐ 4	
Reading newspaper articles	☐ 5	
At church or synagogue	☐ 6	
Playing computer or video games	☐ 7	
Attending museums, zoos, or aquariums	☐ 8	
Watching movies with environmental themes	☐ 9	
Reading kids magazines	☐ 0	
From government agencies	☐ 1	74/
Seeing ads or other materials sponsored by companies	☐ 2	
Reading about it on product packages and labels	☐ 3	
Listening to musicians sing/rap about the environment	☐ 4	
None	☐ 5	
Not sure	☐ 6	

30. **Here are some ways you might learn more about environmental problems and issues. Which two or three ways would you most prefer to learn more about the environment? (CHECK TWO OR THREE BOXES)**

Talking to your family	☐ 1	75/
Learning about it in school	☐ 2	
Watching TV news, TV nature programs, etc.	☐ 3	
Listening to the radio	☐ 4	
Reading newspaper articles	☐ 5	
Learning at church or synagogue	☐ 6	
Playing computer or video games	☐ 7	
Attending museums, zoos, or aquariums	☐ 8	
Watching movies with environmental themes	☐ 9	
Reading kids magazines	☐ 0	
Government agencies	☐ 1	76/
Seeing ads or other materials sponsored by companies	☐ 2	
Reading about it on product packages and labels	☐ 3	
Listening to musicians sing/rap about the environment	☐ 4	
None	☐ 5	
Not sure	☐ 6	

31. Here are some things that young people can do to become more involved in environmental issues. Which two or three would you personally be most interested in getting involved with? (CHECK TWO OR THREE BOXES)

Winning coupons for fun stuff in exchange for cleaning up litter or recycling	☐ 1	77/
Entering a contest to win prizes for writing rap songs about the environment	☐ 2	
Going camping or hiking, or spending more time closer to nature	☐ 3	
Taking part in a clean-up of trash and litter in your neighborhood	☐ 4	
Collecting and sorting newspapers, bottles and cans in the neighborhood for recycling	☐ 5	
Entering a contest to win prizes for designing posters or ads about helping the environment	☐ 6	
Helping your parents or other adults close to you to learn more about the environment	☐ 7	
Selling candy or raffle tickets to raise money for the environment	☐ 8	
Contributing your own money to help the environment	☐ 9	
Helping to remove graffiti and other paint and dirt from sides of buildings	☐ 0	
Becoming part of an environmental organization with kids all over the country, one that sends you information on the environment, suggests things you could do to help, etc.	☐ 1	78/
Helping to organize and attending science fairs with environmental topics	☐ 2	
Joining clubs or after school activities for kids interested in the environment	☐ 3	
Attending a summer camp to learn about the environment	☐ 4	
Joining youth organizations (for example, Boy Scouts, Girl Scouts, Boys and Girls Clubs)	☐ 5	
None	☐ 6	
Not sure	☐ 7	

79-0
80-1

Finally, we would like to ask a few background questions?

D-1. Are you...

Male	☐ 1	6/
Female	☐ 2	

D-2. Are you of Hispanic origin or descent (that is, Spanish or Latin American), or not?

Yes	☐ 1	7/
No	☐ 2	
Don't know	☐ Y	

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D-3. What is your race or ethnic background?

White	☐ 1	8/
Black or African American	☐ 2	
American Indian or Alaskan native, Eskimo	☐ 3	
Asian, Asian American or Pacific Islander	☐ 4	
Other	☐ 5	
Don't know	☐ Y	

D-4. In what grade are you?

4th Grade	☐ 1	9/
5th Grade	☐ 2	
6th Grade	☐ 3	
7th Grade	☐ 4	
8th Grade	☐ 5	
9th Grade	☐ 6	
10th Grade	☐ 7	
11th Grade	☐ 8	
12th Grade	☐ 9	

D-5. From what you know, what is the last grade or level of school your father or male guardian completed?

Less than high school	☐ 1	10/
High school graduate	☐ 2	
Some college	☐ 3	
College graduate	☐ 4	
Post graduate (like a masters or law degree)	☐ 5	
Don't know	☐ Y	

D-6. From what you know, what is the last grade or level of school your mother or female guardian completed?

Less than high school	☐ 1	11/
High school graduate	☐ 2	
Some college	☐ 3	
College graduate	☐ 4	
Post graduate (like a masters or law degree)	☐ 5	
Don't know	☐ Y	

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D-7. Is there an adult in your household who is unemployed and looking for work?

Yes ..... ☐ 1 12/

No ..... ☐ 2

Don't know ..... ☐ Y

D-8. Does your family use food stamps to buy food?

Yes ..... ☐ 1 13/

No ..... ☐ 2

Don't know ..... ☐ Y

D-9. Do you participate in extra-curricular activities at school, such as sports teams, clubs, student government and so on?

Yes ..... ☐ 1 14/

No ..... ☐ 2

Not sure ..... ☐ Y

D-10. Do you participate in extra curricular activites outside of school, such as Boy Scouts, Girl Scouts, Boys Club, Girls Clubs, 4-H Clubs and so on?

Yes ..... ☐ 1 15/

No ..... ☐ 2

Not sure ..... ☐ Y

THANK YOU VERY MUCH!

20 21 22 23 24 25 26 27 28 29 30

35-78/B
80-2